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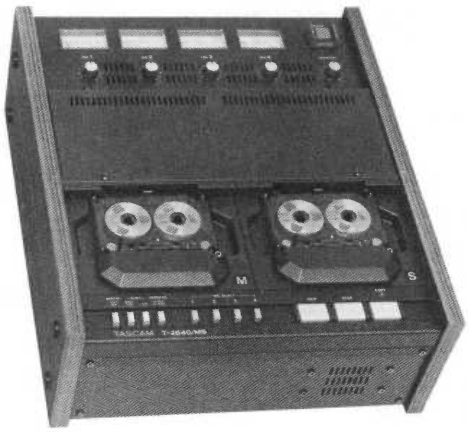

TASCAM
TEAC Professional Division

SERVICE MANUAL

T-2640/MS·2S
T-2620/MS·2S
Cassette Duplicator

Effective: April, 1985

5704026000

SERVICE MANUAL

This Service Manual has been prepared for the benefit of our service engineers. When service agencies and dealers are making repairs and/or adjustments according to the procedures mentioned in this manual, we advice you to pay close attention to prevent electric shock.

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PRECAUTIONS

1. Due to continued improvement of the product, a minor part of circuits in the actual products may differ from the circuit diagrams in this manual.
2. Specifications, service data and design are subject to change without prior notice.
3. Foil is on the P.C. board diagrams, a foil pattern side is shown.
4. Parts marked ★ take a relatively long delivery time.
5. Parts marked ⚠ are important safety parts. When replacing, these parts use only the same parts.
6. Parts unlisted or unnumbered are not treated as servicing parts as a rule and may not be supplied.

1. SPECIFICATIONS AND SERVICE DATA

1-1. Specifications

CHARACTERISTICS	T-2640-MS	T-2640-2S
1. Configuration	Master deck x 1, Slave deck x 1	Slave deck x 2
2. Track system	4 track/4 channel	
3. Heads	Master deck: 4 track/4 channel inline ferrite, Playback only Slave deck: 4 track/4 channel inline ferrite, Recording only	Slave deck: 4 track/4 channel inline ferrite, Recording only
4. Tape	NORMAL type (TYPE I) up to C-90, CHROME type (TYPE II) up to C-90	
5. Motor	Capstan: (FG type, DD, DC brushless servo motor) x 1 Reel: (DD, DC brushless motor) x 2	
6. Copy speed	38 cm/sec. (8 times normal speed)	
	Master deck: Built-in ±3% pitch control	—
7. Monitor output	8 ohm 0.4W max., built-in 5 cm diameter speaker	—
8. Bias frequency	500 kHz	
9. Power requirements	100/120/220/240V AC, 50/60 Hz (General export models), 120V AC, 60 Hz (U.S.A./Canada), 220V AC, 50 Hz (Europe), 240V AC, 50 Hz (U.K./Australia)	
10. Power consumption	45W	49W
11. Operation position	Horizontal	
12. Dimensions	335(W) x 142(H) x 382(D) mm (max.)	
13. Weight	Approximately 11 kg.	
PERFORMANCE		
1. Tape start-up time	0.5 sec. from tape start to rated speed	
2. Tape speed deviation	Within ±0.3%	
3. Rewind speed	Within 70 sec. (C-60)	
4. Copy quality		
Frequency response	50 – 10,000 Hz: ±3 dB, 40 – 12,500 Hz: –4 dB ∿ +3 dB	
S/N ratio	Better than 45 dB (WTD)	
Distortion	Less than 2.0% with 315 Hz signal, reference level	
Crosstalk	With 1,000 Hz signal Between tracks: better than 50 dB Between channels: better than 35 dB	
5. Wow and flutter	0.09% (WTD) or less	

CHARACTERISTICS	T-2620-MS	T-2620-2S
1. Configuration	Master deck x 1, Slave deck x 1	Slave deck x 2
2. Track system	2 track/2 channel	
3. Heads	Master deck: 2 track/2 channel inline ferrite, Playback only Slave deck: 2 track/2 channel inline ferrite, Recording only	Slave deck: 2 track/2 channel inline ferrite, Recording only
4. Tape	NORMAL type (TYPE I) up to C-90, CHROME type (TYPE II) up to C-90	
5. Motor	Capstan: (FG type, DD, DC brushless servo motor) x 1 Reel: (DD, DC brushless motor) x 2	

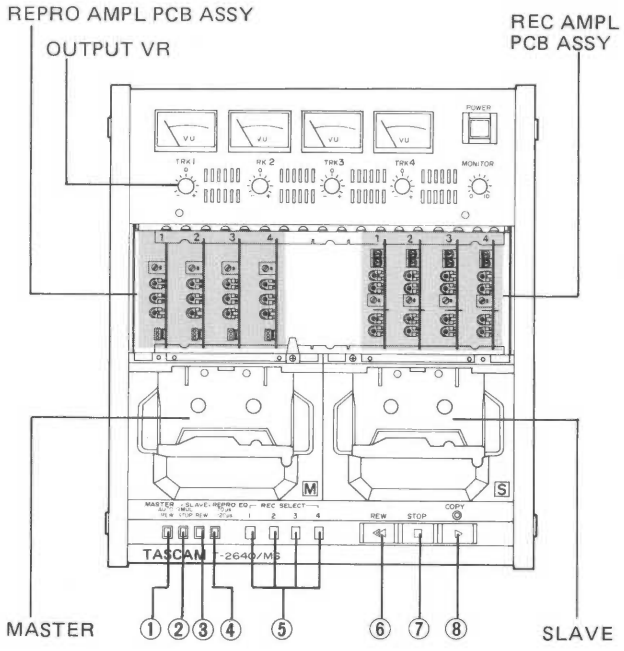
CHARACTERISTICS	T-2620-MS	T-2620-2S
6. Copy speed	38 cm/sec. (8 times normal speed)	
	Master deck: Built-in ±3% pitch control	—
7. Monitor output	8 ohm 0.4W max. built-in 5 cm diameter speaker	—
8. Bias frequency	500 kHz	
9. Power requirements	100/120/220/240V AC, 50/60 Hz (General export models), 120V AC, 60 Hz (U.S.A./Canada), 220V AC, 50 Hz (Europe), 240V AC, 50 Hz (U.K./Australia)	
10. Power consumption	40W	
11. Operation position	Horizontal	
12. Dimensions	335(W) x 142(H) x 382(D) mm (max.)	
13. Weight	Approximately 11 kg.	
PERFORMANCE		
1. Tape start-up time	0.5 sec. from tape start to rated speed	
2. Tape speed deviation	Within ±0.3%	
3. Rewind speed	Within 70 sec. (C-60)	
4. Copy quality		
Frequency response	50 – 10,000 Hz: ±3 dB, 40 – 12,500 Hz: –4 dB ∿ +3 dB	
S/N ratio	Better than 50 dB (WTD)	
Distortion	Less than 2.0% with 315 Hz signal, reference level	
Crosstalk	With 1,000 Hz signal Between tracks: better than 50 dB	
5. Wow and flutter	0.09% (WTD) or less	

1-2. Service data

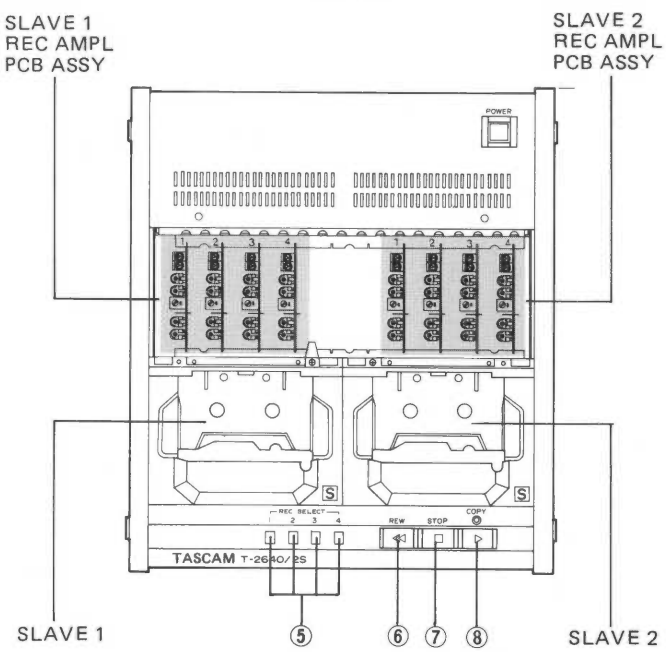
Item	Master (M)	Slave (S)
Tape speed	3,000 ∿ 3,004 Hz	2,996 ∿ 3,000 Hz
Speed variation width	Less than 0.5%	
Pitch control	Maximum +2.5 ∿ +3.5% Minimum –2.5 ∿ –3.5%	
Wow and flutter	Less than 0.03% (WTD), less than 0.1% (UNWTD)	
Take-up torque at copy operation	35 ∿ 45g-cm	
REW torque	75 ∿ 85g-cm	
Pintch roller pressure	450 ∿ 600g	–
Frequency characteristics	Refer to 7-2-4.	Refer to 7-3-5.
Distortion	–	Less than 2%
S/N ratio	Refer to 7-2-6.	Refer to 7-3-7.
Crosstalk	Refer to 7-2-5.	Refer to 7-3-8.

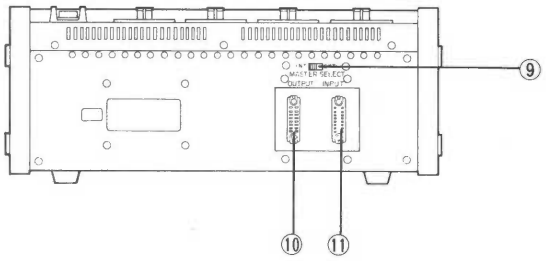
2. CONTROLS AND SWITCHES

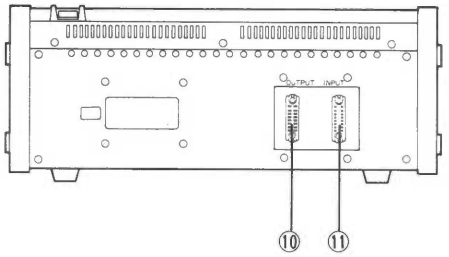
T-2640/MS



T-2640/2S

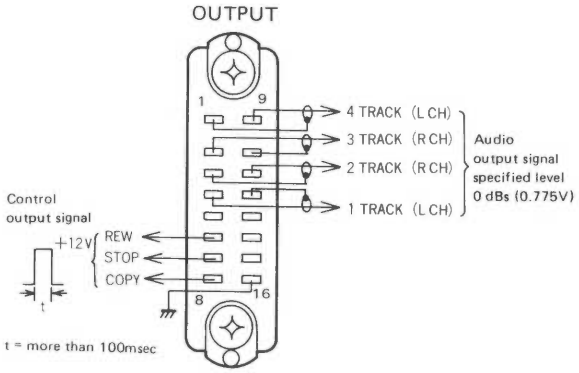






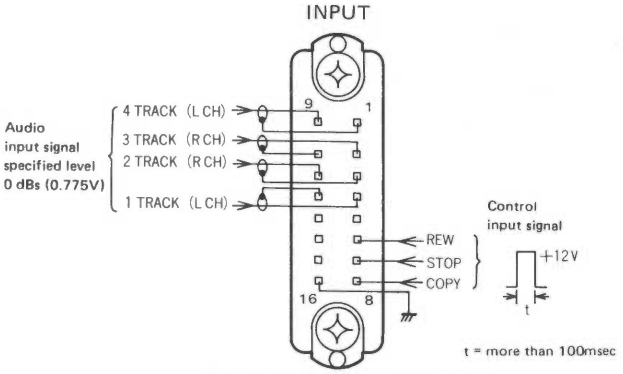
① MASTER AUTO REW SW
② SLAVE SIMUL STOP SW
③ SLAVE REW SW
④ REPRO EQ SELECT SW
⑤ CH-SELECTOR SW
⑥ REW SW
⑦ STOP SW
⑧ COPY SW
⑨ MASTER SELECTOR

⑩ OUTPUT CONNECTOR



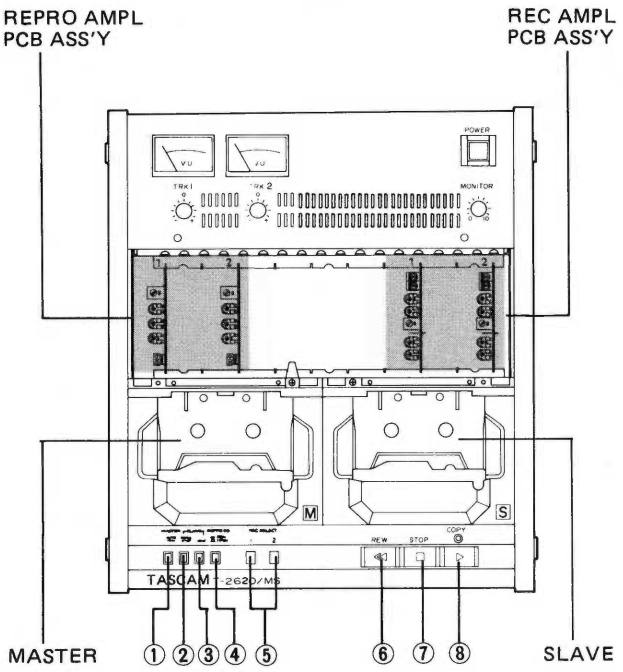
(Multi connector, 16P female)

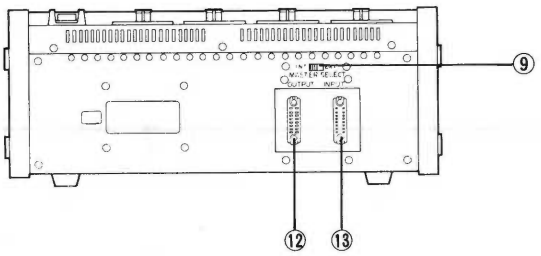
⑪ INPUT CONNECTOR



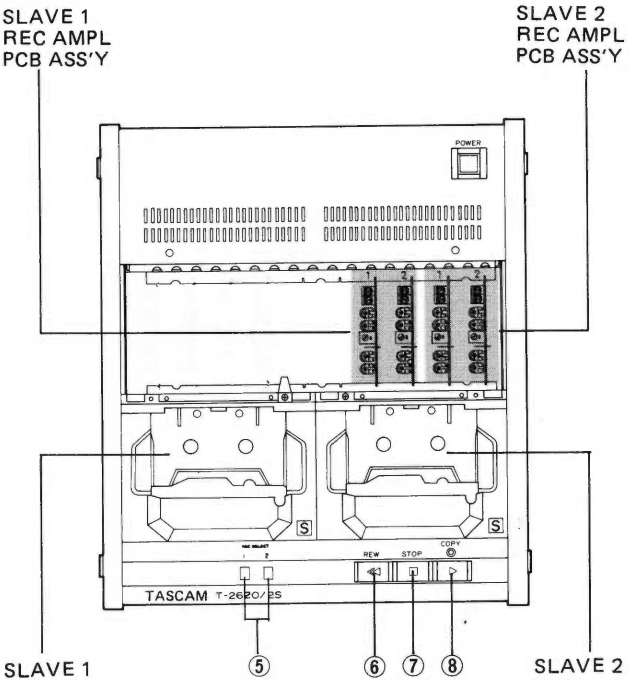
(Multi connector, 16P male)

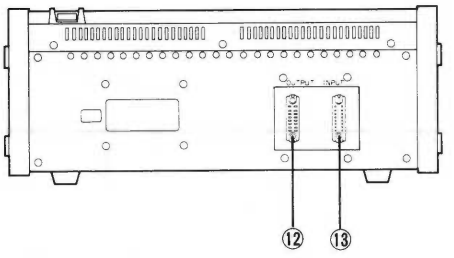
T-2620/MS





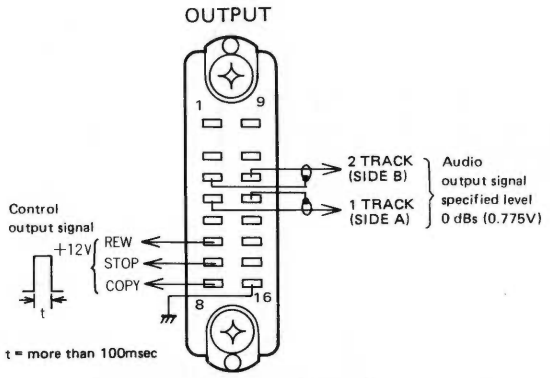
T-2620/2S





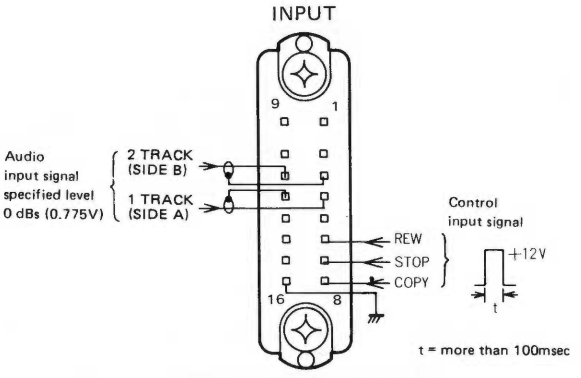
① MASTER AUTO REW SW
② SLAVE SIMUL STOP SW
③ SLAVE REW SW
④ REPRO EQ SELECT SW
⑤ CH-SELECTOR SW
⑥ REW SW
⑦ STOP SW
⑧ COPY SW
⑨ MASTER SELECTOR

⑫ OUTPUT CONNECTOR



(Multi connector, 16P female)

⑬ INPUT CONNECTOR



(Multi connector, 16P male)

3. CIRCUIT DESCRIPTIONS

3-1. Copy Mode

1. When the Power is on, a voltage of +12V enters pin 6 of terminal (A) on the control PC board. (See Page 9, 10) The rising voltage of this +12V enters reset terminal pins 10 and 4 via C18 and C19 respectively, thereby resetting the flip-flops or initializing the flip-flops.
2. When a tape is loaded into the MS (Master) deck, T.SW (refer to the schematic) is closed and grounds the pin 2 of (H) terminal. Then the base of transistor TR3 on the motor drive PC board is grounded. That is, TR3 is cut off and allows the control voltage to flow from the pin 10 of IC5 to the pin 7 (CONT) of IC3.
3. The IC5 is the IC which generates a voltage to control rotating speed of the capstan motor. The input voltage controlled by the pitch control knob and RV3 enters pin 13 of IC5, and the resultant output voltage processed inside the IC goes from pin 10 of IC5 to pin 7 (CONT) of IC3.
   The IC3 controls the capstan motor so that rotation of the motor is controlled by a voltage difference between the voltages applied to pins 6 and 7 of IC3.
4. When the COPY switch is pressed, pin 2 of the terminal (B) is grounded via diode D001 (OPE switch PC board) and the COPY switch. Therefore pin 1 of IC4 turns to low and pin 2 turns to high. Pin 3 (C) of the flip-flop IC2 turns to high, pin 1 (Q) turns to high and pin 2 ($\bar{Q}$) turns to low.
5. Since pin 2 of IC2 turns to low, pin 10 of IC5 turns to high and the transistor TR2 turns on. In other words, one side of the copy-solenoid is grounded.
6. The L output of pin 2 of the flip-flop IC2 is also applied to pin 9 of IC5 for a short-period through C9. As a result, pin 14 of IC1 becomes low level for a short-period of approximately 840ms, thus making TR1 conductive.
   Since TR1 corrector is temporarily connected to the +30V line for the short period, + side of the copy solenoid is powered from the +30V for the short time, thus triggering the solenoid stably. After this triggering operation, TR1 base immediately turns to high and TR1 is cut off, disconnecting the supply of 30V. However as +12V is being supplied to the + side of the solenoid through D17, the solenoid maintains its function to attract with the voltage.
7. The low level output at pin 2 ($\bar{Q}$) of the flip-flop IC2 also enters the base of TR2 through R17 of the motor drive PC board and cuts off the TR2, thus releasing pin 7 (CONT) of IC2 from the TR2. That is the voltage adjusted by RV2 is added to the IC2. Since pin 6 (LS) of IC2 is biased with the reference voltage divided by R38, R14, TH2 (thermister), R15, R16, the reel motor is controlled by the difference voltage between LS and CONT terminals.
8. On the other hand, pin 1 (Q) of IC2 on the control PC board is in high, and this enters pin 10 (R) of IC2 via D11, thus making IC2 at the reset condition. In other words pin 13 (Q) is turned to low and pin 12 ($\bar{Q}$) to high. Consequently, the base of TR1 on the motor PC board turns to high and TR1 goes on. That is, pin 12 of IC1 is grounded and the power to the supply reel motor (L MOTOR) is cut off. The supply reel motor is always controlled by the voltage applied to pin 12 of IC1. The control reference voltage is determined by division ratio of R38, R1, RV1, and R4.
9. The master deck operates in this way.

3-2. REC-LED

1. As was described in the copy mode section, while the copy solenoid is being actuated or TR2 is being turned on, the collector of TR2 is in L level and this L level signal enters from pin 1 of (C) terminal to pin 1 of P013 on the channel selector PC board via the voltage and switch PC boards.
   When one of the record switches (1 – 4) is pressed, the L level signal goes through the switch and eventually comes back to the base of transistor Q002. Therefore Q002 is cut off and Q001 is turned on. In other words, while the MS deck is in COPY mode and one of the REC switches is on, light color changes from green (POWER ON) to red (REC ON).
   Note: When the master deck only is being operated, color of the COPY LED does not change if the REC SW is turned on.

3-3. Stop Control (MS)

1. When the STOP switch of the master deck is pressed, pin 3 of the terminals (B) on the control PC board is grounded to L level as in the copy mode.
   Consequently pin 10 of IC4 turns to high, and this voltage enters the reset terminals 4 and 10 of the flip-flops IC2 via diode D8 and D10 respectively, and resets the flip-flops.
2. By the reset operation, pin 1 (Q) of IC2 becomes L and ($\bar{Q}$) to H. In the same way the outputs of both pin 13 (Q) and pin 12 ($\bar{Q}$) of the lower flip-flop IC2 are also reset.
3. When pin 2 of IC2 turns to high, output pin 10 of IC5 turns to low and TR2 is cut off. Therefore, the ground side of the copy solenoid becomes open and the playback head moves down.
4. When pin 1 of IC2 turns to high, the base of the transistor TR2 on the motor drive PC board turns to high and TR2 turns on. Thereby pin 7 (CONT) of IC2, which controls the take-up reel motor, is grounded and the motor is stopped.
5. In the same way, as the base of TR1 turns to high, TR1 turns on and the control circuit for the supply reel motor stops the motor.

3-4. REW Mode

1. When the REW button on the master deck is pressed, pin 4 of (B) terminals on the control PC board is grounded to L level as in the copy mode.
2. Therefore output pin 8 of IC4 turns to high the input at pin 11 (C) of the flip-flop IC2 turns to high; so pin 13 (Q) develops high level output and pin 12 ($\bar{Q}$) low level output respectively.
3. Since pin 12 of IC2 turns to low, base of the transistor TR1 on the motor drive PC board turns to low and TR1 is cut off. As a result, pin 12 of IC1 is released from TR1, thus making IC1 to be controllable. In other words, the reference voltage determined by the dividing ratio set by R38, R1, RV1 and R4 is applied to pin 12 of IC1.
   The IC1 performs as programmed with this voltage working as the reference and the resultant output controls rotation of the supply reel motor, thus taking-up a tape.
4. The H level signal from pin 13 (Q) of the flip-flops IC2 is applied to the transistor TR3 base and turns on the TR3.
   That is, the ground side of the brake solenoid is grounded.
   Furthermore, the H level signal enters pin 4 of IC2 and resets the flip-flop (COPY side).
5. At the same time, the L level signal from pin 12 (Q) of the flip-flop IC2 is transmitted to pin 13 of IC4 via C11, and makes output pin 15 of IC1 turns low level for approximately 840ms.
   As a result, the transistor TR1 turns on in this period and +30V is supplied to + side of the brake solenoid via the emitter-collector of TR1 and actuates the brake solenoid.
   After TR1 is cut off again, +12V being applied through D17 maintains the brake solenoid and keeps the brake open.

3-5. Auto Stop (Master/Slave)

a) Copy mode (Tape end)

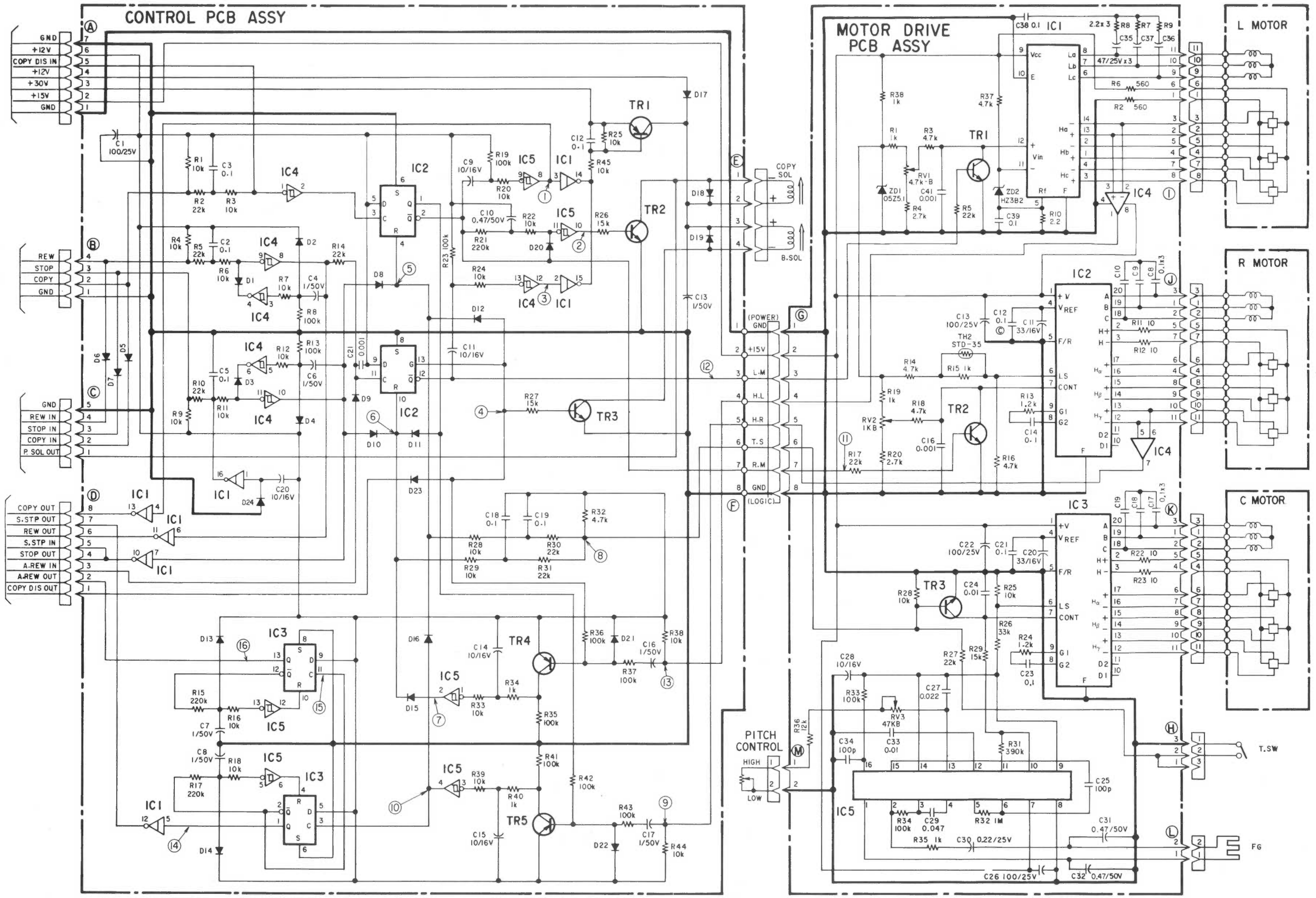
1. While copying, the reel motor (R MOTOR) rotates. As a result pin 7 of buffer IC IC4 in the sensor circuit on the motor drive PC board develops a train of rotational pulses. These pulses enter C17 via pin 5 of (F) terminals in the control circuit and pull the TR5 base to a low level. As a tape is wound up to its end and the motor is stopped, the rotational pulses disappear, and the electric potential at TR5 base is raised high by the potential at pin 1 of IC2, thus cutting off TR5.
2. When TR5 is cut off, the input voltage at pin 3 of IC5 decreases, and the output pin 4 of IC5 becomes H level. As a result, pin 4 (R) of IC2 becomes H, thus resetting the flip-flop IC2.
   In other words pin 1 (Q) becomes L and pin 2 ($\bar{Q}$) becomes H. Since these conditions are the same as those in the stop mode. The motor control circuits, TR1, TR2, IC1 and IC2 on the motor drive PC board work as was described in the stop mode section.

b) REW mode (Tape end)

1. While rewinding, pin 1 of IC4 on the motor drive PC board also develops rotational pulses as in the copy mode. These pulses are applied to the base of TR4 via the (F) terminals on the control PC board, pin 4 and C16. Therefore, the base side of TR4 is pulled to a low level and TR4 goes on.
2. When the tape is wound up to its end and no pulse output is developed, the base of TR4 is raised to high level by the H level voltage from pin 13 of IC2, thus making TR4 turn off. As a result, the voltage at pin 1 of IC5 turns to low and pin 2 to high. The high level voltage enters the reset pin 10 of IC2 via D15 and resets the flip-flop IC2. That is, pin 13 (Q) of IC2 turns to low and pin 12 ($\bar{Q}$) of IC2 turns to high. These are the same conditions as those obtained in the stop mode. Thus the motor stops.

3-6. Simultaneous Stop

1. The slave SIMUL STOP switch, when pressed, connects pin 7 (S. STP OUT) of terminals (D) to pin 5 (S. STP IN) on the MS side control PC board.
2. As was described in the stop mode, pin 4 of IC5 generates a high level voltage in the stop mode. This voltage is applied to pin 3 (C) of IC3, turning pin 2 ($\bar{Q}$) of IC3 to low and pin 1 to high. Therefore, pin 12 of IC1 turns to low.
3. This low level voltage enters pin 5 (MASTER STOP IN) of terminal P010 on the power PC board via pin 4 of terminals (D) on the control PC board, then enters the base of Q009. The Q009 turns on and voltage of +12V is output via D014 from pin 6 of P011 as MASTER STOP OUT. This output is again input to pin 2 (SLAVE STOP IN) of P011 on the power PC board via the STOP switch and the connector PC board, then to the base of Q006, turning Q006 on. Therefore pin 3 (STOP OUT) of P008 is grounded to L level.
4. This low level signal enters pin 3 (STOP IN) of terminals (C) on the control PC board of the slave deck. This terminal is connected to pin 3 (STOP) of terminals (B) via diode D7. Therefore when Cathode side of D7 is in low level, the control circuit in the slave unit functions in the same way as does the control circuit in the master deck when the stop signal enters terminals (B) on the control PC board. Therefore, when the master deck stops the slave deck also stops at the same time. That is, both take-up reel motors stop simultaneously.


CONTROL PCB ASSY
MOTOR DRIVE PCB ASSY
GND
+12V
COPY DIS IN
+12V
+30V
+15V
GND
REW
STOP
COPY
GND
GND
REW IN
STOP IN
COPY IN
P. SOL OUT
COPY OUT
S.STP OUT
REW OUT
S.STP IN
STOP OUT
A.REW IN
A.REW OUT
COPY DIS OUT
(POWER) GND
+15V
L.M
H.L
H.R
T.S
R.M
GND (LOGIC)
COPY SOL
B.SOL
L MOTOR
R MOTOR
C MOTOR
T.SW
FG
PITCH CONTROL
HIGH
LOW
TR1 2SB865
TR2,TR3 2SD1153
TR4,TR5 2SA1015
IC1 M54526P
IC2,IC3 TC4013BP
IC4,IC5 TC4584BP
D1~D16, D20~D24 1S1588
D17~D19 S5277B
TR1~TR3 2SC1815GR
IC1 TA7245
IC2,IC3 M51712
IC4 NJM2903D
IC5 μPC1043C

T-2640/MS·2S/T-2620/MS·2S

5. The simultaneous stop signal (H level) developed at pin 1 of IC3 automatically returns to low level after approximately 150ms as mentioned in the "3-7-3" section in this manual.

3-7. Master Auto-Rewind

1. The master AUTO REW switch, when pressed, connects pin 3 (A. REW IN) of terminals Ⓓ on the MS side control PC board to pin 2 (A. REW OUT).
2. As was described in the auto stop section, when the tape is wound up to the end and motor stops, pin 3 (C) of IC3 turns to high, pin 1 (Q) turns to high, and pin 2 ($\overline{Q}$) turns to low.
3. The low level output from pin 2 enters pin 5 of IC5, but the pin 5 does not immediately become low level as the capacitor C8 has been charged. After approximately 150ms determined by the time constant of C8 and R17, the C8 is discharged and the pin 2 becomes low level. Then pin 6 of IC5 goes high level. The flip-flop IC3 is reset and pin 1 develops low level output and pin 2 high level output.
4. The high level voltage at pin 2 of IC3 enters pin 11 of IC3, then pin 13 of IC3 goes high level and pin 12 low level.
5. The high level output from pin 13 goes through pin 2 (A. REW OUT) of terminals Ⓓ first and then MASTER AUTO REW switch, and enters again to pin 3 of terminals Ⓓ as the AUTO REW IN signal. Therefore pin 11 (C) of the flip-flop IC2 turns to high, pin 13 (Q) turns to high and pin 12 ($\overline{Q}$) low. In other words, the same conditions are generated as in the rewind mode and the deck on the master side automatically starts rewinding.
6. IC5 (pins 13 & 12) also works as the IC5 (pins 5 & 6) and the H level auto rewind signal developed at pin 13 of IC3 is inverted to L level after 150msec.

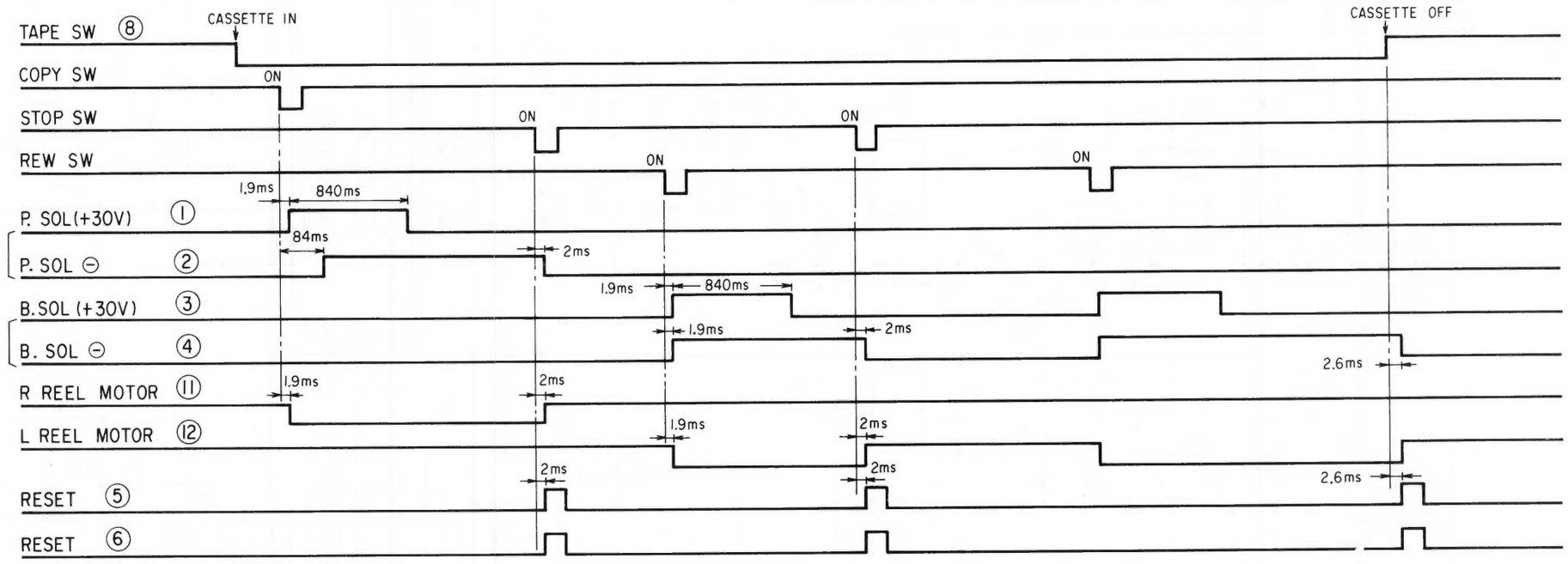
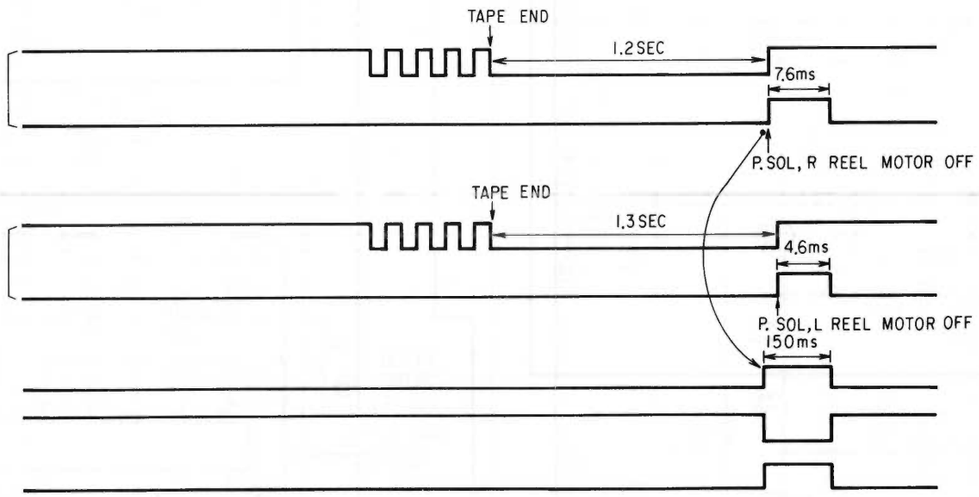


Figure in ○ stands for measurement point on control schematic diagram.



3-8. Control Circuit (SLAVE)

The control circuit in the slave deck is exactly the same as that used for the master deck except two flip-flop circuits of IC3 and associated circuits are not in use. Therefore explanation will be omitted.

3-9. Reproducing Circuit (Master/Slave)

The reproducing circuit of the master deck is shown at right. A reproducing signal is amplified in passing through the route shown by a heavy line and supplied to the output terminals. FET Q005 and Q006 in the illustration function as switches selecting parameters of equalizers, and are operated when an H level voltage is applied to their gates via the REPRO EQ switch.

3-10. Recording Circuit (SLAVE)

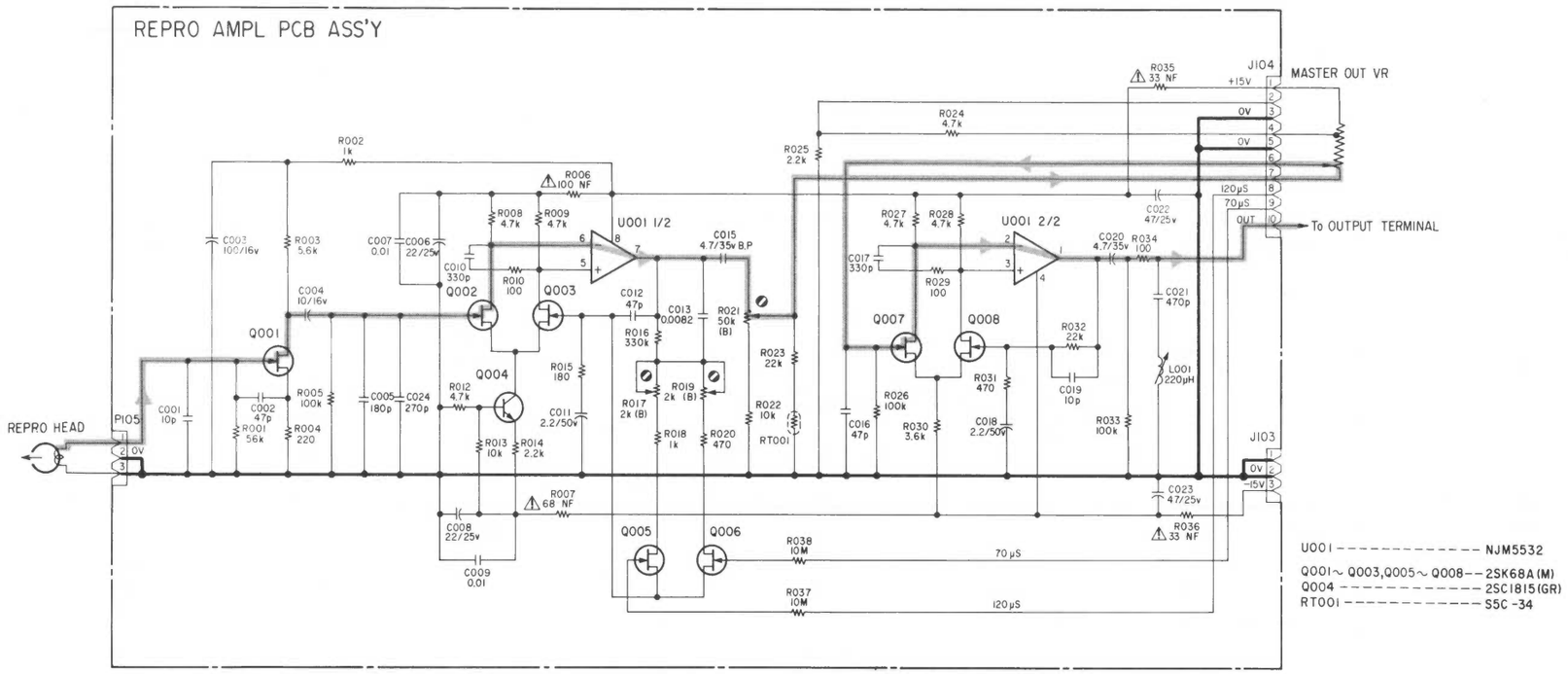
The recording circuit is shown in the figure at right. A recording signal is amplified in passing through the route shown by a heavy lines.

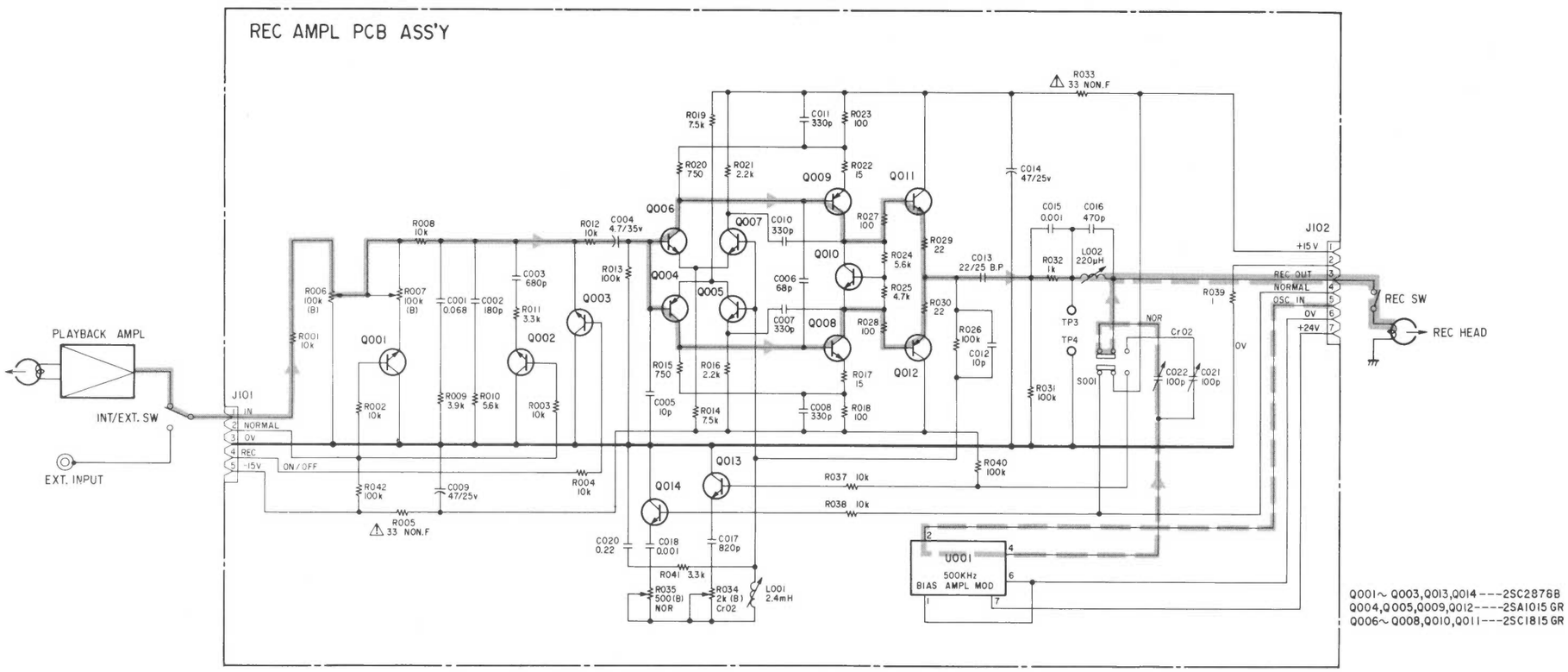
Note: Dotted line shows flowing path for recording bias voltage.

Transistors Q001 and Q002 work as switches to select one of equalizers. At NORMAL position, a high level voltage enters to each base to turn on Q001 and Q002. Q003 is a transistor switch which works as a muting switch for recording signal and turns on at a time of no recording.

Q013 and Q014 are also switches to select a recording equalizer, and turn on when an high level voltage is applied to each base.

U001 is the bias amplifier, the input of which is supplied from the bias oscillator unit (U007) on the power PC board.

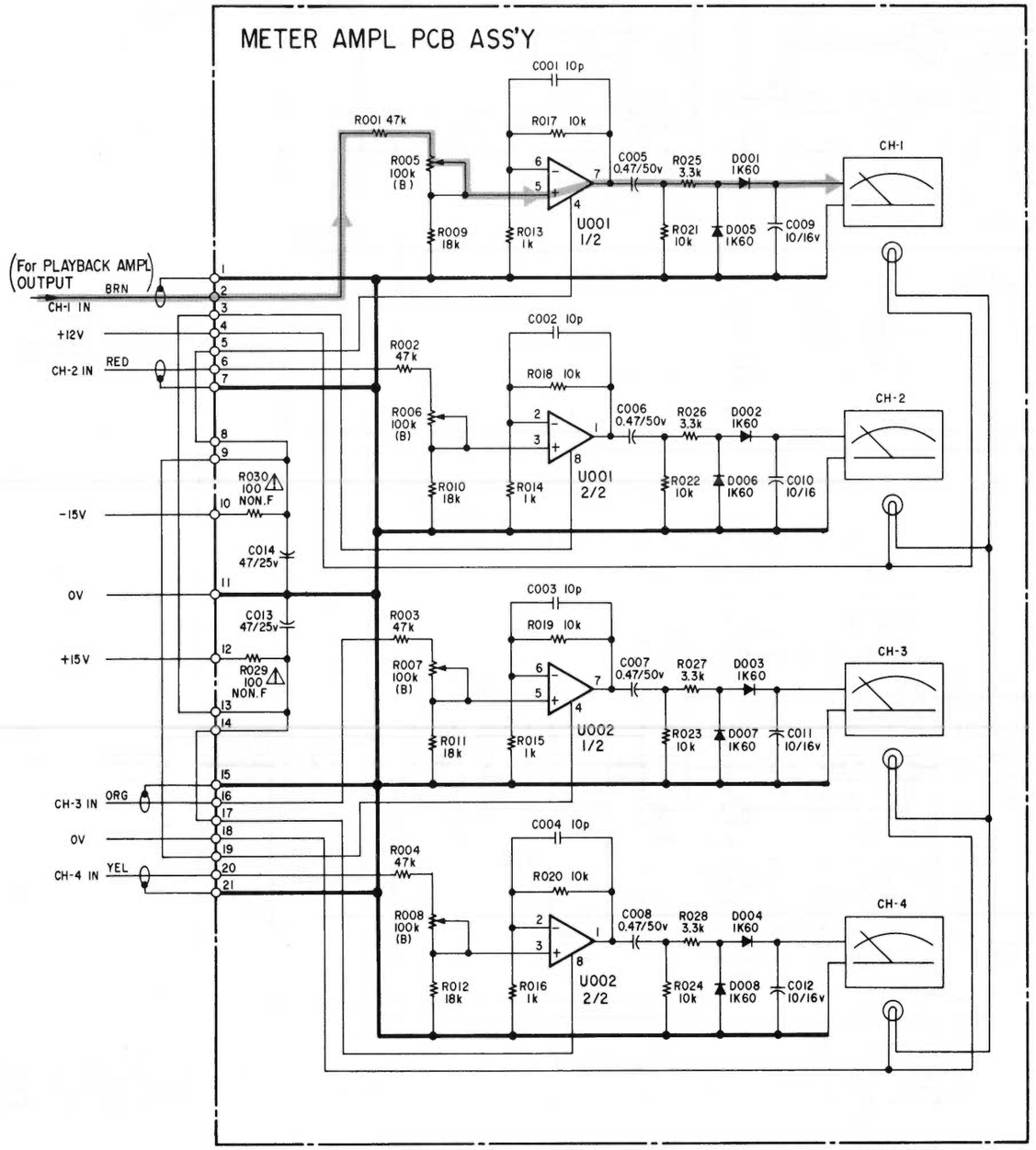




T-2640/MS·2S/T-2620/MS·2S

3-11. Meter Circuit

The meter circuit is comprised as shown below. A fraction of the output at the reproducing amplifier is used as its input.

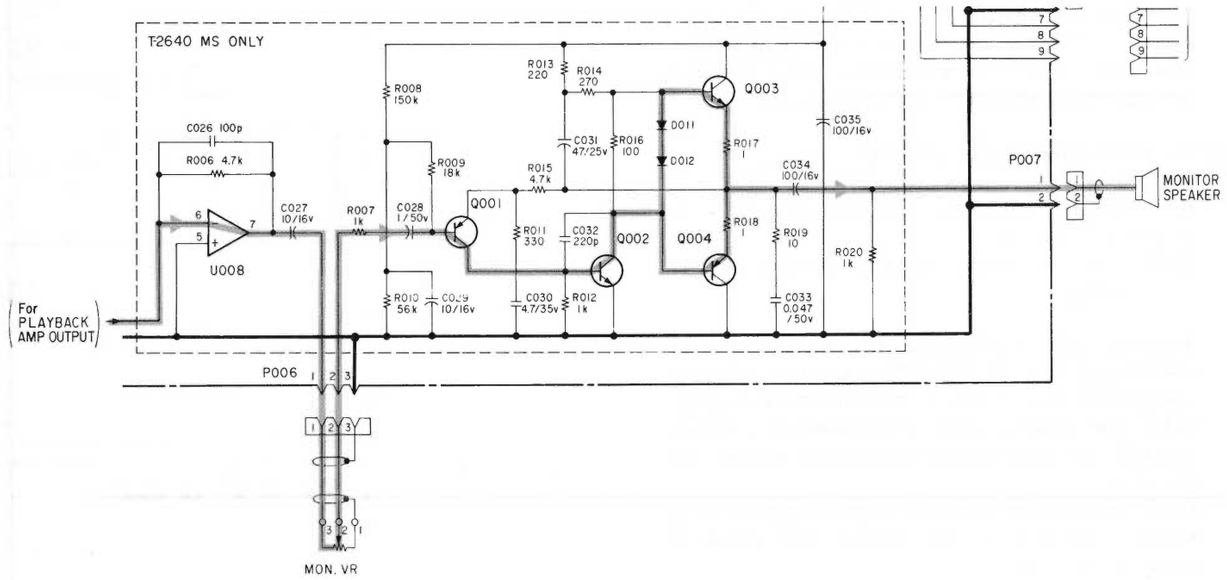


U001, U002-----RC4558P

3-12. Monitor Amp.

The monitor amplifier is mounted on the power PC board, and it is comprised as shown below. A fraction of the playback output signal is picked up on the connector PC board and supplied via resistance of 100K ohm.

The signal flows as shown by a heavy line.



4. MAINTENANCE

4-1. Cleaning

a. Head

After an extended period of use, the tape heads will become deposited with magnetic particles, dusts and dirt. This can cause a poor high-frequency response or signal dropout, resulting in less high-quality duplications. To prevent these problems, be sure to clean the tape heads periodically before making duplication.

b. Capstan Shafts and Pinch Rollers

These are critical parts in the tape transport mechanism and determines performance of tape travel. If these are deposited with magnetic particles, dust and dirt, wow and flutter characteristics will lower, thus causing poor running performance of tape. Be sure to keep the capstan shafts and the pinch rollers clean. When cleaning these parts, use a cotton swab moistened with cleaning fluids such as TEAC TZ-261. Clean the pinch rollers, capstan shafts, etc. Thinner must not be used in any case. Use TZ-261, Fluid A for the heads and capstans, and Fluid B (rubber cleaner) for the rubber parts of pinch rollers.

4-2. Demagnetization

A head will be magnetized after a long period of use or when it is touched by magnetized objects. As a result, deterioration of the frequency response (specially in the treble tone) and increase of noise occur and sometimes increased noise level will be recorded in the important MASTER tape. For this reason, be sure to prevent touching the head with magnetized scissors or drivers and applying direct current for measuring continuity of the head. If the head has been magnetized, demagnetize it with the head eraser (Demagnetizer ; TEAC E-3).

Procedures

1) Set the POWER switch to OFF. Unload the cassette tape if loaded and place the head eraser away from the unit.
2) Turn power of the head eraser ON, approximately 1 meter away from the unit, and then slowly move its edge closer to the head and move it up and down for a several times.
3) When the tape head has been demagnetized, gradually increase the distance between the head eraser and the tape head. Turn the power of the head eraser when it is approximately 1 meter away from the tape head. Magnetization is invisible unlike deposition of magnetic particles on the tape head, therefore periodic demagnetization is recommendable in addition to the head cleaning.

4-3 Lubrication

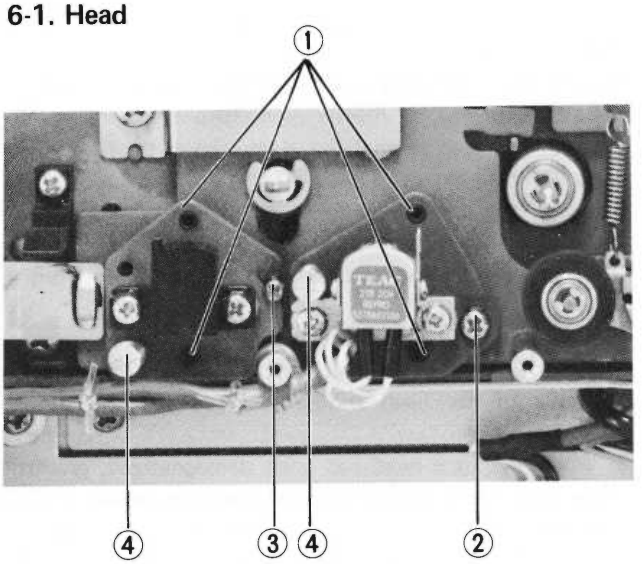
No lubrication is necessary for the rotating parts because of oilless type bearings used.

5. MAIN MAINTENANCE EQUIPMENTS

1. **Head height adjustment:**	Jig A: Part No. 5736006600 Jig B: Part No. 5736006700
2. **Bar tension gauge:**	1 ∿ 1kg
3. **Torque meter:**	Cassette torque meter: 0 ∿ 100g-cm
4. **Check amp PCB ass'y:**	Part No. 5200150100
5. **Extention card ass'y:**	Part No. 5200154900
6. **Cassette with mirror:**	MTT-902T
7. **Test tape:**	For tape speed/wow and flutter: MTT-2112 For standard level set: MTT-150 For frequency characteristics: MTT-2568 (120μsec., −20 dB)
	For crosstalk (2T): MTT-121N For crosstalk (4T): MTT-141N
	Blank tape (NORM type): MTT-551 Blank tape (CrO_2 type): MTT-5061

6. MECHANICAL CHECKS AND ADJUSTMENTS

6-1. Head



① Height adjusting screw
② Azimuth adjusting screw
③ Dummy head angle adjusting screw
④ Head base securing screw

Fig. 6-1 Head adjusting screws

6-1-1. Head Height

As shown in Fig. 6-2, install the jig (A) and move the jig (B) closer to the head guide. Adjust height of the recording/reproducing head and the dummy head so that the heads can be inserted smoothly without touching the upper and lower head guides.

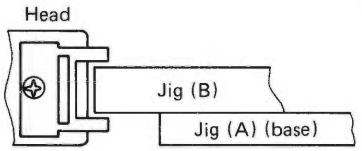


Fig. 6-2 Head height check

6-1-2. Tilt

Just like height adjustment, use the tip of jig (B) and adjust the height with height adjusting screws in such a way that there is no clearance as shown in Fig. 6-3.

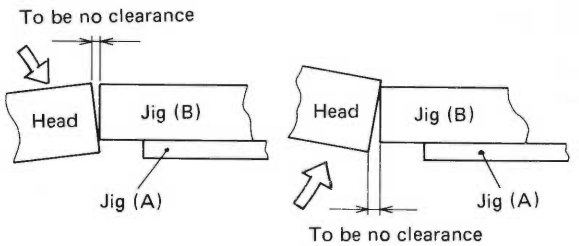


Fig. 6-3 Head tilt check

6-1-3. Front and rear position adjustment of the tape head.

This adjustment is not usually required. When replacing parts of the head base or making final position adjustment for front and rear of the tape head, check the positions first, then proceed to the final adjustment as required. In order to confirm the position of the head, set jigs (A) and (B) as shown in Fig. 6-4. Then check if a tip of jig (B) is within the range of the dual line markers of the jig (A). If not, adjust it by bending the part A as shown in Fig. 6-5. The part A is easy to break and needs special care for handling it.

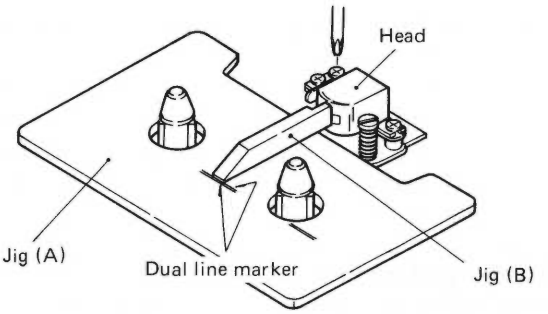


Fig. 6-4 Head position check

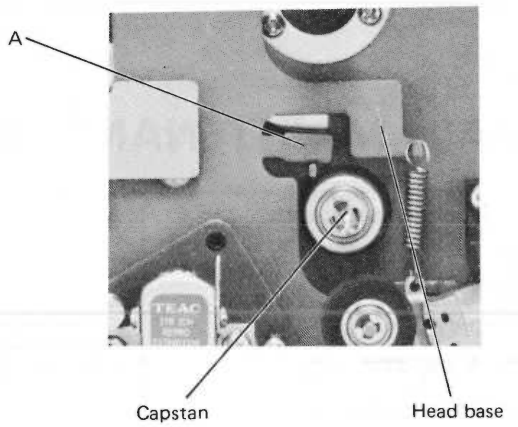


Fig. 6-5 Head position adjustment

6-1-4. Azimuth

A. Reproducing Head (MASTER)

1. Connect an oscilloscope and a level meter to OUTPUT terminal (refer to "2. CONTROLS & SWITCHES of the rear panel.
2. Load a frequency response test tape to the deck to be checked, then reproduce the tape. In the case of T-2640, check the phases of tracks 1 and 4 (tracks 1 and 2 in the case of T-2620). Phase should be within 90° over 320 Hz – 50.4 KHz. Adjust the phase with the azimuth adjusting screws. (Refer to Fig. 6-1.)

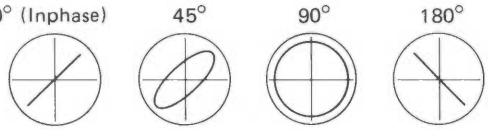
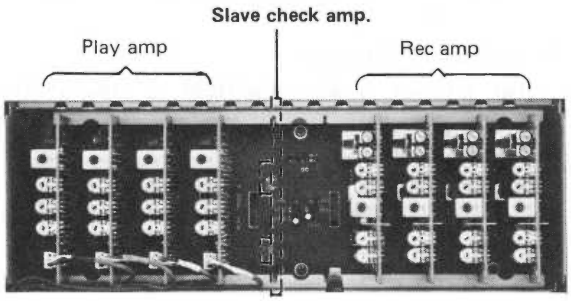


Fig. 6-6 Head phase

B. Recording Head (SLAVE)

3. Connect Check Amp. P.C.B. Ass'y to the loading part of the check Amp. on the SLAVE DECK side to be checked by referring to the illustration below.

- **T2640/MS·T2620/MS**



- **T-2640/2S·T2620/2S**

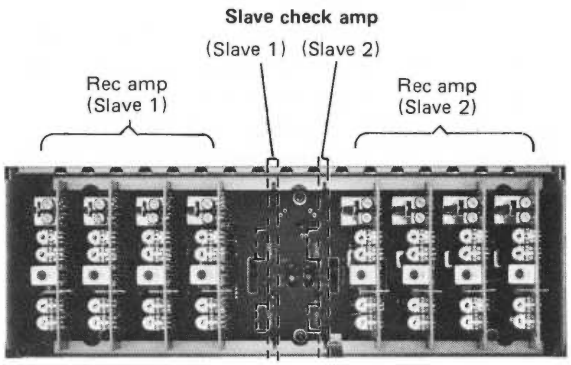


Fig. 6-7 Locations of check amp.

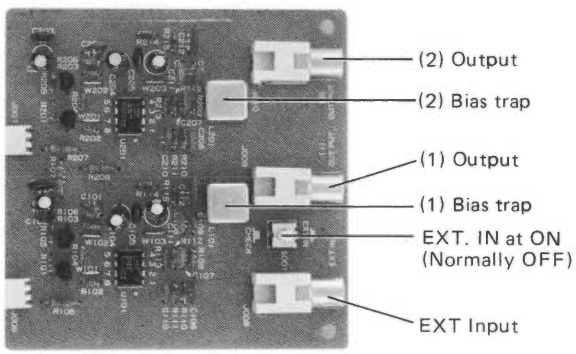


Fig. 6-8 Check amp. PCB ass'y

4. Connect the oscilloscope and level meter to OUTPUTS (1) and (2) of Check Amp., respectively.
5. Check and adjust the phase, following the same procedures previously mentioned in "Reproducing Head".

   NOTE: If Channel Selector Switch is turned "ON" while reproducing Test Tape MTT-2568, the Test Tape will be erased. Be sure to turn "OFF" the switch.

6-2. Tape Travel

1. Load a mirror tape, and run the tape. Confirm that the tape is not curled at upper or lower guide part for the Dummy Head, Record/Playback heads.
2. If it seems curled, confirm height of the head, following 6-1-1 and adjust the height of the pinch roller as required.

   Adjustment of the height of pinch-roller

   1) Loosen the hex. screw at top of the pinch-roller arm shaft.
   2) Turn the nut and adjust the height of the pinch-roller.
   3) After adjustment, tighten the hex. screw to fix the nut.

6-3. Tape Speed

1. Connect the frequency counter to OUTPUT terminal, following the procedures taken in the head azimuth adjustment.

   Use the rear OUTPUT terminals of the MASTER DECK and Check Amp. P.C.B. Ass'y of the SLAVE DECK. Set the pitch control Volume, built-in the MASTER DECK, at its center. (Fig. 6-9, Click stop position "0" on the scale.)
2. Load the Tape Speed Test tape into the deck and wind the tape up to approximate mid length of the tape.
3. Reproduce the test tape and measure the tape speed. Measurement should be conducted 10 or more seconds after the capstan motor starts rotating.

   (Specifications)

   MASTER (M): 3000 – 3004 Hz
   SLAVE (S): 2996 – 3000 Hz
   $0\ \text{Hz} \leqq (M - S) \leqq 8\ \text{Hz}$
   Speed Tolerance: within 0.5%
   Pitch Control (MASTER only):
   maximum + 2.5 ∿ + 3.5%
   minimum – 2.5 ∿ – 3.5%

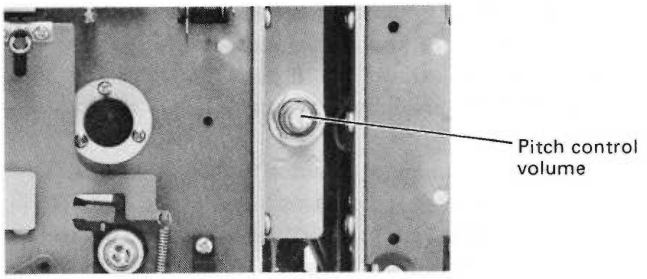


Fig. 6-9 Pitch control volume setting

Adjust tape speed with Volume A on the P.C.B. at the back of the deck. (Refer to Fig. 6-10.)

6-4. Wow and Flutter

1. Connect the Wow and Flutter meter to OUTPUT terminal, following the same procedures for tape speed check.
2. Reproduce signals of Wow and Flutter Test tape and measure the signals.
   (Specifications)
   Less than 0.1% (UNWTD)
   Less than 0.03% (WTD)

6-5. Take-up Torque in Copy Mode

Take-up torque is a very important factor in stabilizing tape travel and reducing tape speed variation.

1. Load the cassette torque meter (0 – 100 g-cm) in stead of the normal cassette tape.
2. Run the cassette torque meter tape at the COPY mode, and read the cassette torque meter. The reading should be within the range of 35 – 45 g-cm (reference value).
3. If the reading is out of the limit, adjust the P.C.B. Volume B (refer to Fig. 6-10) on the P.C.B. at the back of the deck.

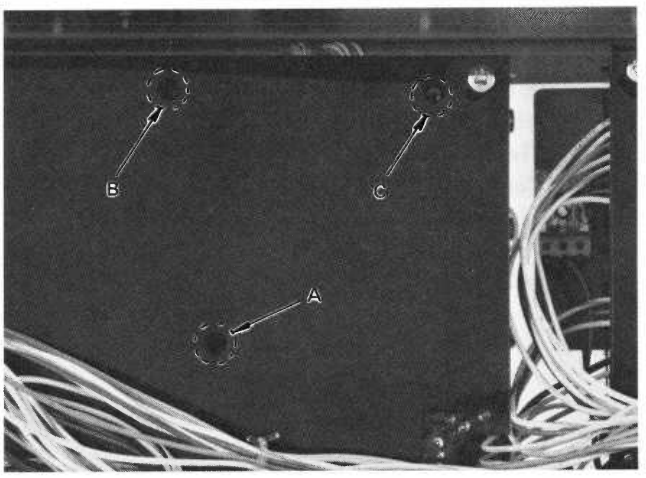
6-6. Take-up Torque in REW Mode

1. Load the cassette torque meter in stead of a normal cassette tape.
2. Run the cassette torque meter in the REW mode, and read its value. When using a cassette torque meter with tape, wind the tape up to the end and then set the deck to REW mode. In other words, measurement should be conducted under the condition where no inertia of tape travel works. The reading should be within the range of 75 – 85 g-cm.
3. If the reading is out of the limit, adjust Volume C.

6-7. Pinch Roller Pressure

Pinch roller pressure is also important to stabilize tape travel and to reduce variations of tape speed just like the take-up torque.

1. Set the deck to the COPY mode, then set the spring balance near the shaft of the pinch roller as shown in Fig. 6-11.
   NOTE: Do not let the tip of the spring balance touch the pinch roller.
2. Move the spring balance in direction of the arrow little by little, and detouch the capstan shaft from the pinch roller completely.
3. Move the pinch roller back little by little until it touches the capstan shaft. Read the scale on the spring balance when the pinch roller starts rotating. Confirm that the torque value at that time is 450 – 600 g.
4. If the reading is out of the limit, replace the pressure spring of the pinch roller.



Mecha assy rear view

Fig. 6-10 Tape speed torque adjustment

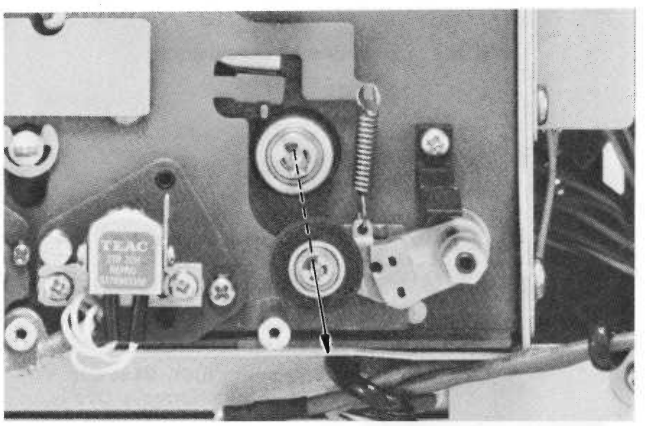


Fig. 6-11 Pinch roller pressure measurement

7. CHECK AND ADJUSTMENT OF AMPLIFIER

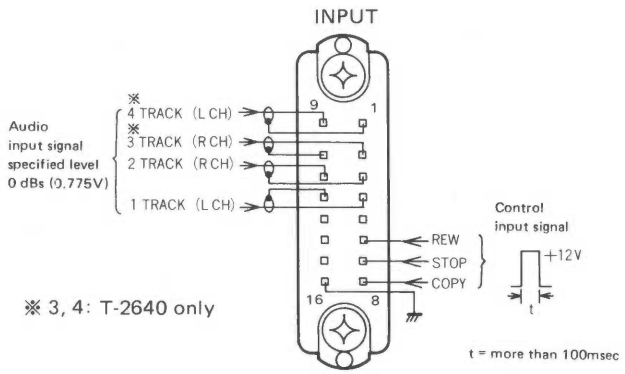
7-1. Before Proceeding Checks and Adjustments

7-1-1. On T-2620 and T-2640

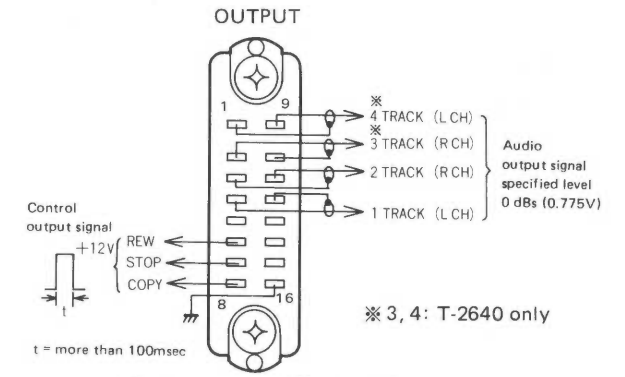
Procedures for checks and adjustments are common to those for T-2620 and T-2640 unless otherwise specified.

7-1-2. Input/Output Levels

Nominal Input/Output levels of INPUT and OUTPUT jacks on the rear panel are 0 dBs (0.775V).



(Multi connector, 16P male)



(Multi connector, 16P female)

Fig. 7-1 INPUT/OUTPUT terminal

7-1-3. Cleaning and Demagnetization

Always clean and demagnetize tape paths before proceeding checks and adjustmenst for reproducing and recording characteristics. If these are incomplete, data obtained and adjustments become inaccurate.

7-1-4. Use of Extention Cards

The cards are useful for adjustments of EQ coil (L001) in the recording amplifier and voltage checks for each part of the amplifier. Insert the extention cards as shown in Fig. 7-2, 7-3.

1. Reproducing Amp.

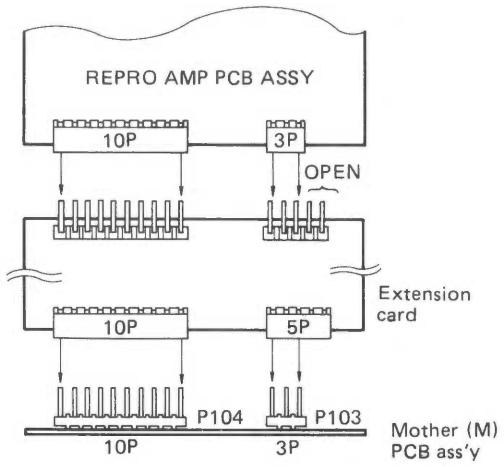


Fig. 7-2 REPRO amp. extension card

2. Recording Amp.

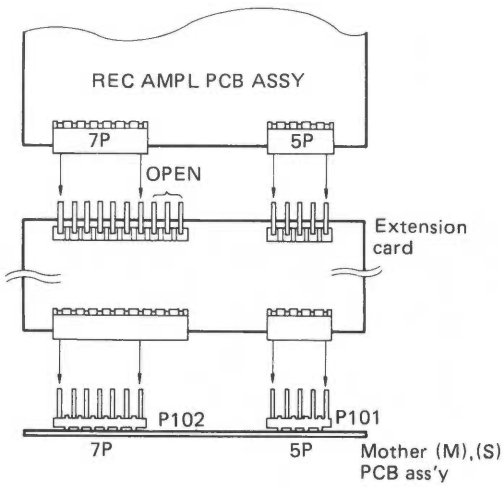


Fig. 7-3 REC amp. extension card

7-2. Reproducing Amp. (MASTER)

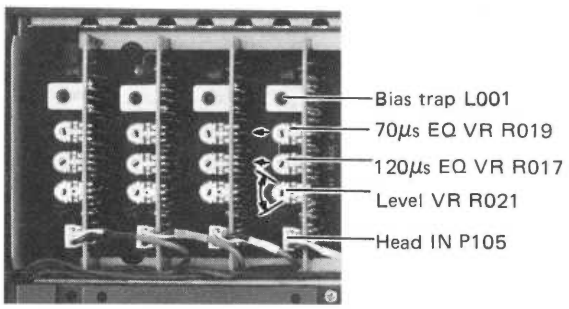


Fig. 7-4 Repro amp. PCB ass'y

7-2-1. Adjustment Preparation

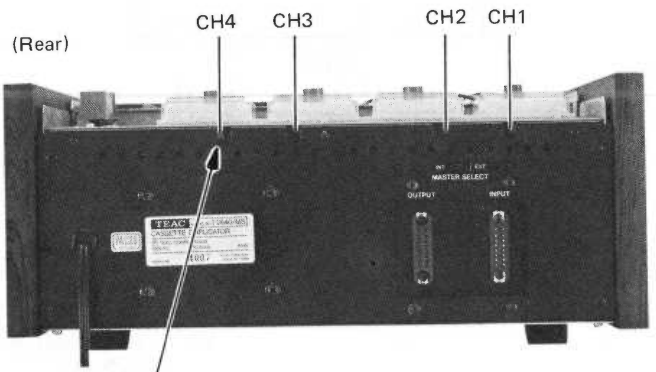
1. Set the reproducing level adjustment control to the click stop position 0 on the scale.
2. Set REPRO EQ switch to 120μsec position.
3. Set MASTER SELECT switch on the rear panel to the INT side.
4. Connect a level meter and an oscilloscope to OUTPUT terminals on the rear panel. (Fig. 7-1)
5. Temporarily set the Volume of the reproducing amplifier (Fig. 7-4) to the arrow mark.

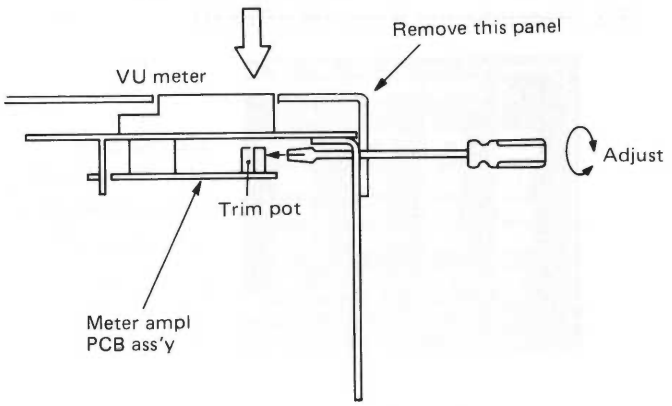
7-2-2. Output Level

Reproduce signals of the reference level test tape, then adjust R021 so that each track output level becomes 0 dBs (0.775 V).

7-2-3. VU Meter

When the output level in 7-2-2 is 0 dBs, adjust the volumes (refer to Fig. 7-5) R005, R006, R007 and R008 on the meter amp. P.C.B. to obtain + 3VU. As for T-2620, adjust the volumes R005 and R006 only.





Note: For T-2620/MS, adjust VU meter 1 and 2 only. (3 and 4 are not used.)

Fig. 7-5 Meter level adjustment

7-2-4. Reproducing Frequency Characteristics

1. Reproduce signals of the test tape for 120 μsec. frequency characteristic, then adjust R017 so that the output characteristic of each track is within the range shown in Fig. 7-6.

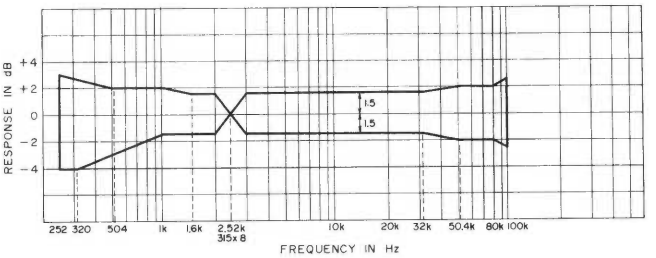


Fig. 7-6 Reproduction frequency response

2. Set REPRO EQ switch to the 70 μsec. position, then reproduce the same test tape and adjust R019 so that output characteristic of each track is within the values shown below.

Frequency	Output level
2.52 kHz	0 dB
320 Hz	0 dB +2.5 dB −4.0 dB
16 kHz	−2.5 dB ±1.5 dB
50.4 kHz	−4.2 dB ±2.0 dB
64 kHz	−4.3 dB ±2.0 dB
100 kHz	−4.4 dB ±2.5 dB

3. When there is a tendency for the response to rise at around 32 KHz as shown in Fig. 7-7, the following procedures are recommended to take.
   a. . . . . .tendency, remove C005.
   b. . . . . .tendency, remove C024.
   c. . . . . .When level increase at 80 KHz and 100 KHz is required, change C001 (10pF) to (20 ~ 47 pF).

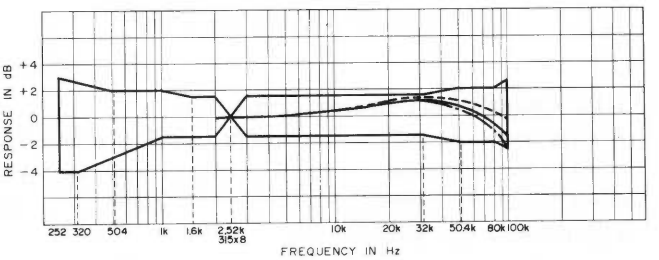


Fig. 7-7 High end frequency response

4. Check output level in 7-2-2 again, after completion of reproducing frequency characteristic adjustment. Give a fine adjustment as required.

7-2-5. Crosstalk

1. Connect the level meter to OUTPUT terminals of the track to be measured via 8 KHz band pass filter.
2. Load the test tape for crosstalk measurement and reproduce it. Then obtain level difference between the signal and back ground noise levels reproduced.
   (Specifications)
   T-2620: More than 50 dB (Between tracks) With signal recorded on track 1 and no signal on track 2.
   T-2640: More than 36 dB (Between channels) With signals recorded on tracks 1 and 3 and no signal on tracks 2 and 4.

7-2-6. S/N Ratio

Reproduce completely demagnetized tape and measure its noise level. Then obtain the level difference from the reference output level of 0 dB. Turn "OFF" the record select switch. (Connect a band pass filter to the OUTPUT terminals).

(Specification)

More than 45 dB (UNWTD)

7-2-7 Bias Leakage in Output

After completion of recording amplifier adjustment (bias setting), turn on the record select switch and hook up the test setup for S/N ratio measurement. Then adjust L001 for minimum bias leakage.

7-3. Recording Amp. (SLAVE)

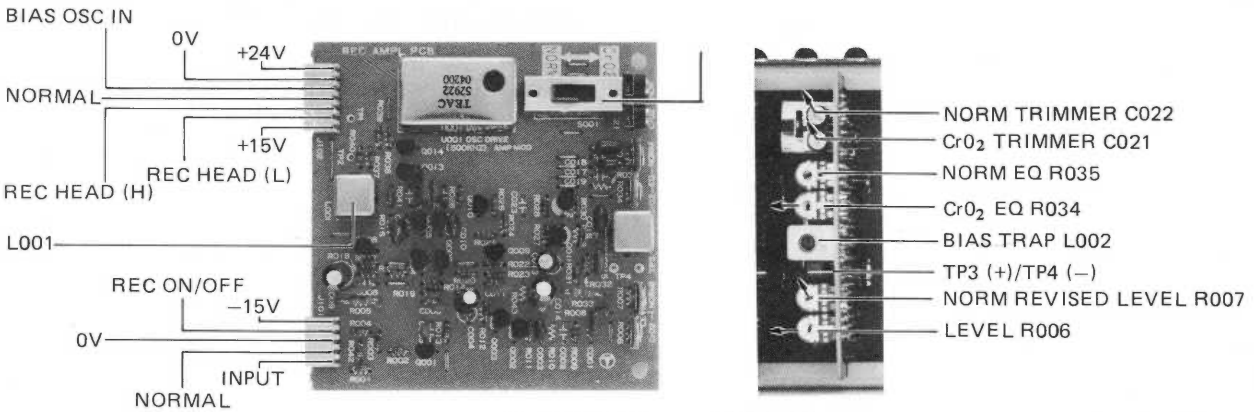


Fig. 7-8 REC amp. PCB ass'y

7-3-1. Adjustment preparation

1. Set the master select switch (MS Type) on the rear panel to "EXT" side.
2. Temporarily set each volume of the recording amplifier and the trimmer to the arrow mark (Fig. 7-8).
3. When adjusting the recording amplifier, use the extention cards as shown in Fig. 7-3.

7-3-2. Recording EQ Coil (L001)

1. Remove the connector PO12 on the power source P.C.B. (refer to Fig. 7-9) to set the bias "OFF".
   NOTE: Turn "OFF" the power when removing and installing PO12.

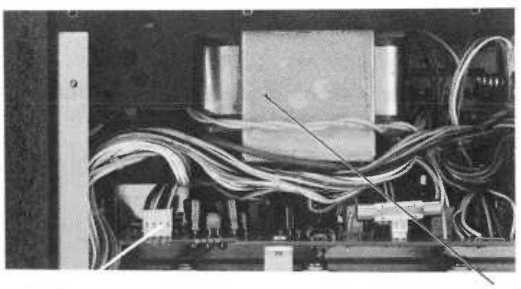


Fig. 7-9 Bias OSC connector

2. Connect the level meter to the test points (+, −) on the record select P.C.B., and turn "ON" the record select switch.

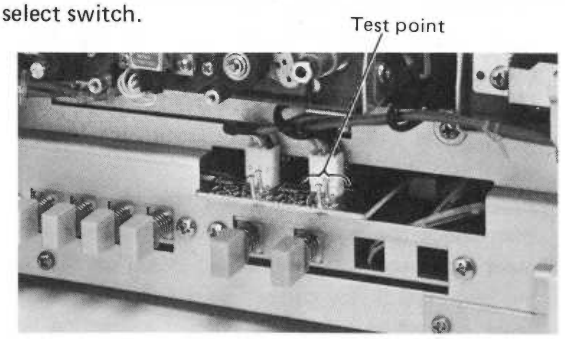


Fig. 7-10 L001 adjustment point (T2620)

T-2640/MS		TP1, 2, 3, 4
T-2640/2S	SLAVE1:	TP5, 6, 7, 8
	SLAVE2:	TP1, 2, 3, 4
T-2620/MS		TP2, 4
T-2620/2s	SLAVE1:	TP1, 3
	SLAVE2:	TP2, 4

3. Apply input signal 120 KHz, − 20 dBs (77.5mV) to INPUT terminals (Fig. 7-1) on the rear panel, and adjust L001 to obtain the maximum level.

7-3-3. Bias Trap (L002)

1. Reconnect PO 12 (Fig. 7-9), which was removed in the section 7-3-2, to the original terminal.
2. Turn "ON" the record select switch.
3. Connect the level meter to TP 3 (+) and TP 4 (−) as shown in Fig. 7-8, then adjust L002 to obtain a minimum reading.

7-3-4. Bias Current

Connect the level meter to the test point as shown in Fig. 7-10 in the section 7-3-2. With the bias voltage being applied, adjust bias current with S001 switch set to each position (NORM – CrO_2).

a. T-2640/MS, 2S

NORM: Adjust CO22 (Trimmer) to obtain 5 mV.
CrO_2: Adjust CO21 (Trimmer) to obtain 7 mV.

b. T-2620/MS, 2S

NORM: Adjust CO22 (Trimmer) to obtain 7 mV.
CrO_2: Adjust CO21 (Trimmer) to obtain 9 mV.

7-3-5. Recording Level and Frequency Characteristics

In order to check the characteristics of the tape recorded at the rate of 8 times speed, a standard reproducer which allows reproduction at a low speed of 4.8 cm/sec. is required. The standard reproducer is loaded with the test tape MTT-150C. Frequency characteristics of the tape deck should be calibrated.

T-2640/MS.2S . . . . 4T. 2 CH Type
T-2620/MS.2S . . . . 2T Mono Type

When erasing a recorded tape, use a bulk eraser. Set MASTER SELECT switch (MS Type) to EXT side and apply input signal to INPUT terminal on the rear panel. (Fig. 7-1)

A. Recording Level

1. Set S001 on the recording amp. P.C.B. to CrO_2 side. Apply input signal 2.52 KHz (reference frequency for the response) 0 dBs (0.775V).
2. Load a blank tape (completely demagnetized) of CrO_2 type into the SLAVE unit, and record the signal applied.
3. Reproduce the tape with the standard reproducer, then check the output level. When the level does not meet the specified value, adjust R006 on the recording amp. P.C.B. for correct level output. Repeat the same procedure until the correct recording level is obtained.
4. Next set S001 to NORM side, then record the same signal on a NORM type blank tape in the same way. Reproduce the tape with the reproducer and check its output level. If the specified level is not obtained, compensate the level using R007 with R006 fixed. The level reduces when R006 is turned clockwise.

B. Frequency Characteristics

1. Reduce input signal by 20 dB or set it to −20 dBs (77.5mV). Then record the frequencies described below one by one for 3 to 4 seconds each, and reproduce those signals with the standard reproducer to see the characteristics.

Recording Frequency	4.8cm/S Mode Frequency
252 Hz	31.5 Hz
320	40
504	63
1K	125
2K	250
2.52K	315
4K	500
8K	1K
16K	2K
32K	4K
50.4K	6.3K
64K	8K
80K	10K
100K	12.5K

2. For adjustment in the high range, use EQ Volume R035 (NORM) and R034 (CrO_2). Compensation range is approx. 5 dB for normal tape and approx. 6 dB for CrO_2 tape at 12.5 KHz. When the reading is out of the limit, readjust the bias level, following the procedures in the section 7-3-4 since the bias setting may be upset.
3. After adjusting the recording frequency characteristics, check the recording level again and make a fine adjustment again as required. The test frequency should be 3.2 KHz (400 Hz).

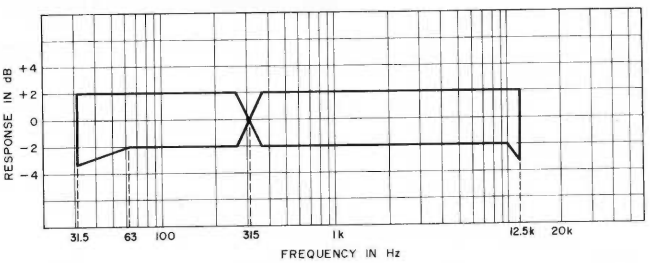


Fig. 7-11 REC/PB frequency response

7-3-6. Distortion Factor

Record the signal 0 dBs (0.775V) 3.2 KHz, following the procedures in the Recording Level Adjustment. Reproduce the signal with the standard reproducer and confirm that the distortion is less than 2.3%. Distortion of the standard reproducer should be less than 1%.

7-3-7. S/N Ratio

Using a completely demagnetized blank tape, record no signal. Reproduce the no signal just recorded with the standard reproducer via a band pass filter 20 Hz – 20KHz and measure the output level.

(Specifications)

T-2640	NORM: more than 47 dB
	CrO_2: more than 48 dB
T-2620	NORM: more than 50 dB
	CrO_2: more than 50 dB

7-3-8. Crosstalk

A. Between Channels (T2640)

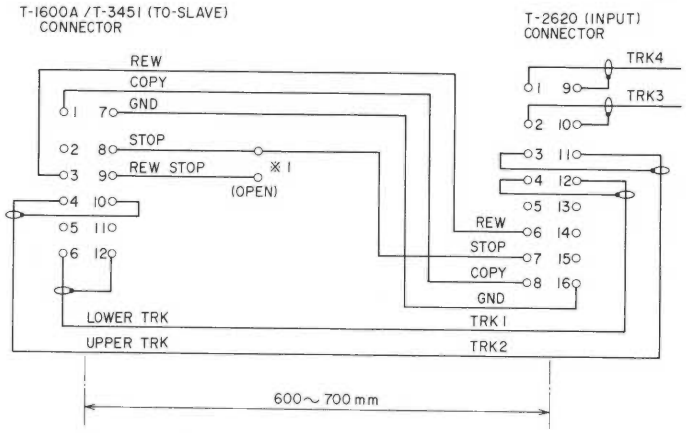
1. Apply signal of 0 dBS (0.775V) 8 KHz to INPUT terminals on the rear panel to tracks 1 and 3 of the SLAVE deck and record the signal on the blank tape.
2. Connect the level meters to tracks 2 and 4 OUTPUT terminals of the standard reproducer via 1 KHz filters for measurement. Reproduce the recorded tape with the reproducer and obtain the difference between the noise level (no signal recording output) and the reference level. The specification is more than 35 dB.

B. Between Tracks

1. When testing T-2640, record 0 dBs (0.775V) 8 KHz signal on tracks 1 and 2, and measure the output level of the track 3 with the standard reproducer via a 1 KHz filter.
2. When testing T-2620, record 0 dBs (0.775V) 8KHz signal on track 1 and measure the output level at the track 2 with the standard reproducer via a 1 KHz filter.
3. Obtain the difference between the measured level and the reference level.
   (Specifications)
   T-2640: more than 55dB
   T-2620: more than 50dB

8. CONNECTION TO T-1600/T-3451

When connecting the T-2620 slave to the T-1600A/T-3451 Master, following circuit will be necessary.
Furthermore, the T-2620 master can be connected to the T-1600A slave with the circuit marked ※ short-circuited.

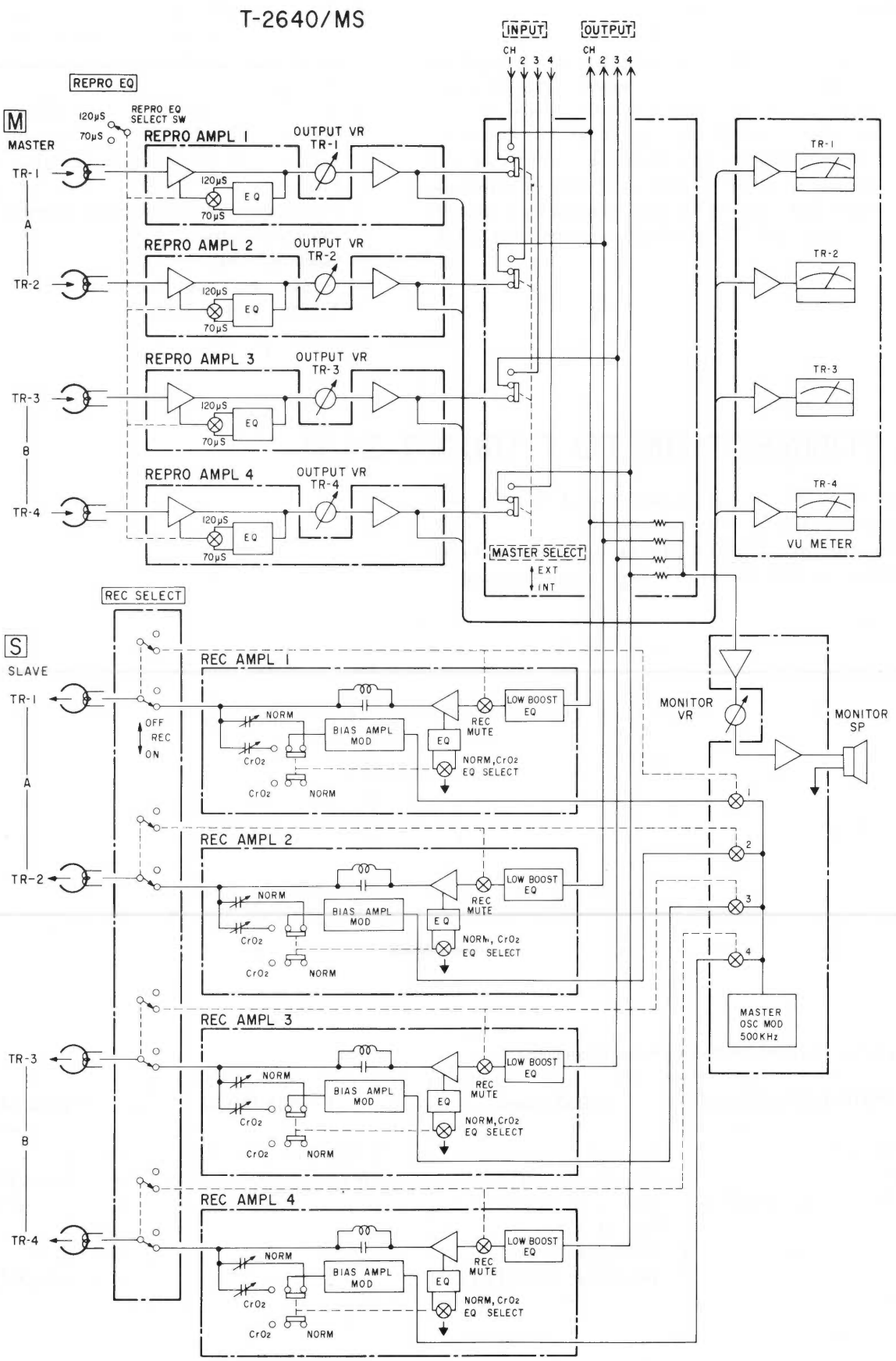


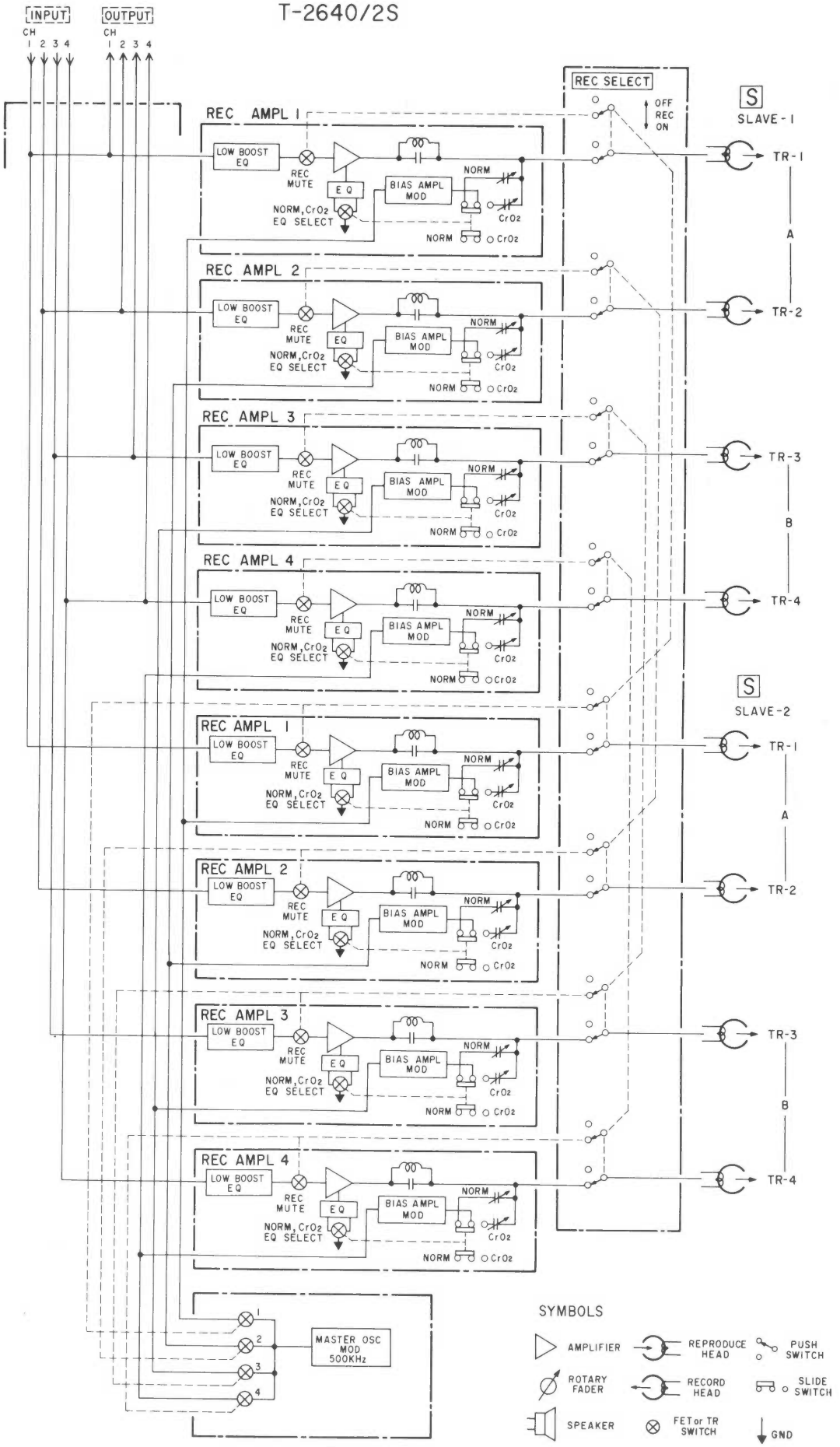
Connectors required for making connection cable

T-1600A/T-3451 (Master)	T-2620 (Slave)
P-1312-CTA (Hirose) (Part code: 6052049000)	Connector: S-1616A (Hirose) (Part code: 5334041100) Plug case: 1616-CBA (Hirose) (Part code: 5334041200)

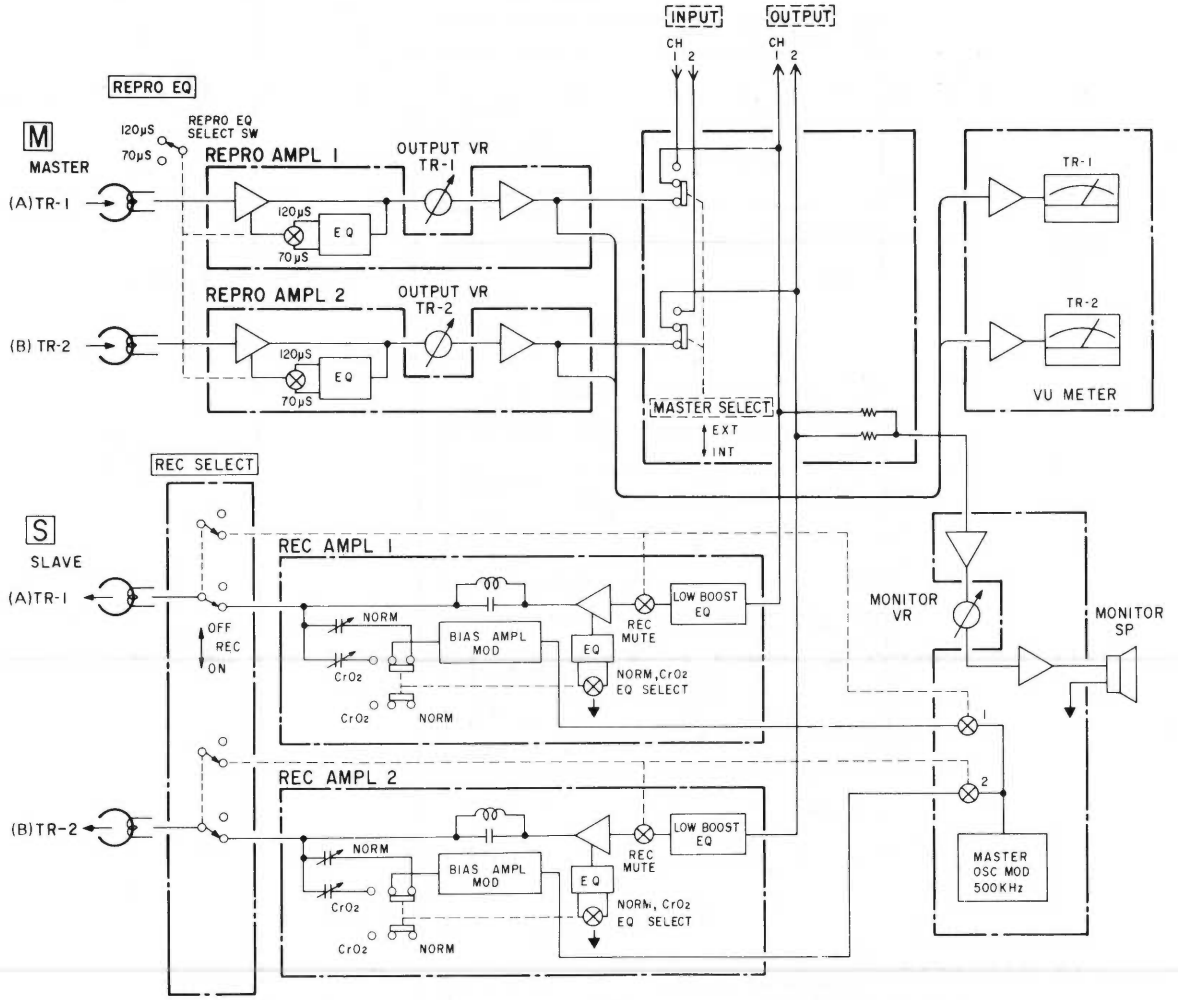
T-1600A (Slave)	T-2620 (Master)
S-1312-CTA (Hirose) (Part code: 6052015000)	Connector: P-1616BA (Hirose) (Part code: 5334041000) Plug case: 1616-CBA (Part code: 5334041200)

9. BLOCK DIAGRAM

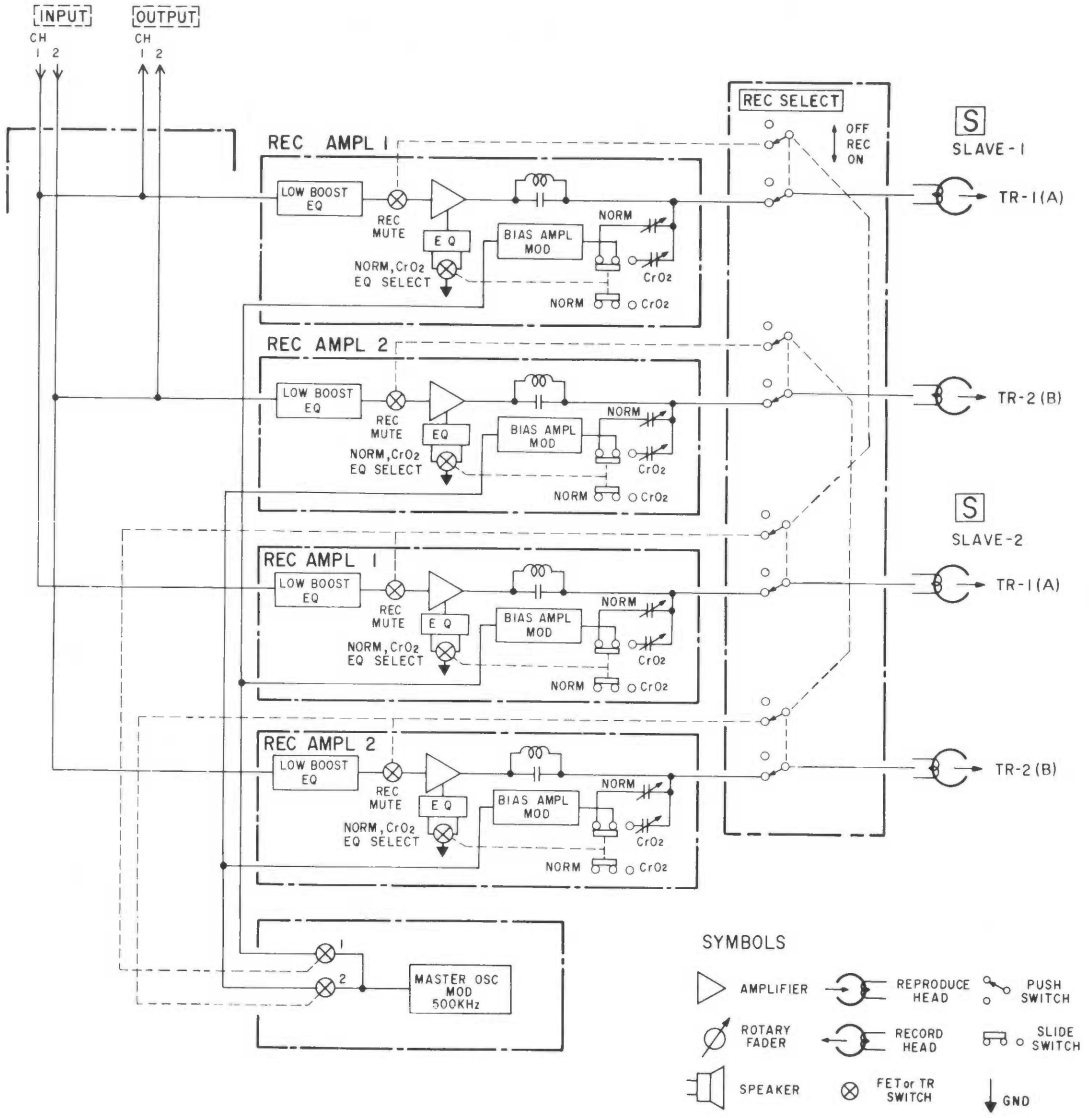



T-2640/2S
INPUT
OUTPUT
CH
1 2 3 4
REC SELECT
OFF
REC
ON
S
SLAVE-1
SLAVE-2
REC AMPL 1
REC AMPL 2
REC AMPL 3
REC AMPL 4
LOW BOOST EQ
REC MUTE
EQ
BIAS AMPL MOD
NORM
CrO2
NORM, CrO2 EQ SELECT
TR-1
TR-2
TR-3
TR-4
A
B
MASTER OSC MOD 500KHz
SYMBOLS
AMPLIFIER
REPRODUCE HEAD
PUSH SWITCH
ROTARY FADER
RECORD HEAD
SLIDE SWITCH
SPEAKER
FET or TR SWITCH
GND

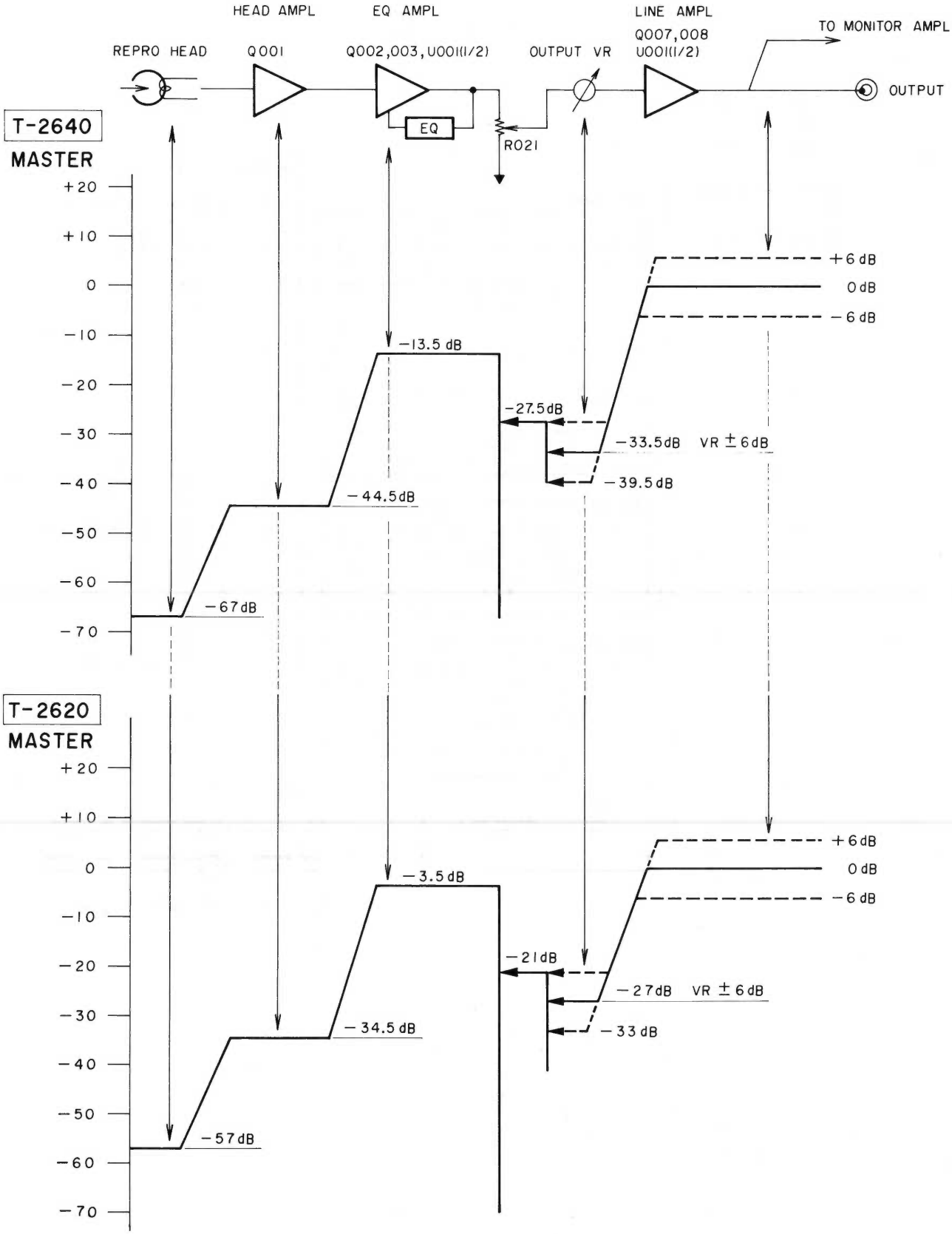
T-2620/MS

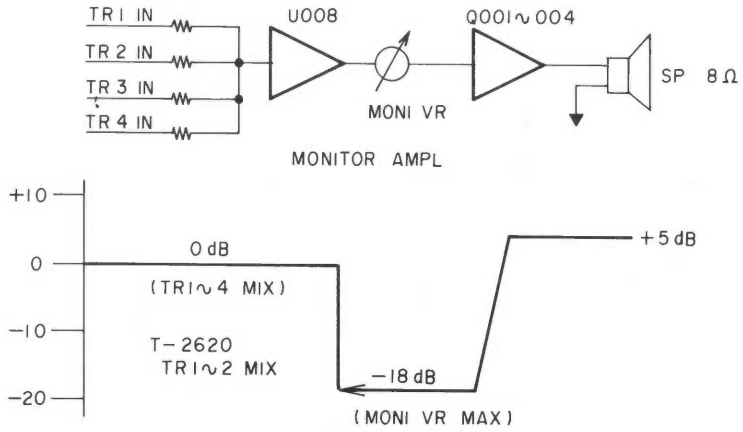

INPUT
OUTPUT
CH 1 2
CH 1 2
REPRO EQ
M
MASTER
120μS
70μS
REPRO EQ SELECT SW
REPRO AMPL 1
OUTPUT VR TR-1
(A)TR-1
120μS
EQ
70μS
REPRO AMPL 2
OUTPUT VR TR-2
(B) TR-2
120μS
EQ
70μS
TR-1
TR-2
VU METER
MASTER SELECT
EXT
INT
REC SELECT
S
SLAVE
(A)TR-1
OFF
REC
ON
REC AMPL 1
NORM
BIAS AMPL MOD
EQ
REC MUTE
LOW BOOST EQ
CrO2
NORM, CrO2 EQ SELECT
CrO2
NORM
MONITOR VR
MONITOR SP
1
2
REC AMPL 2
(B)TR-2
NORM
BIAS AMPL MOD
EQ
REC MUTE
LOW BOOST EQ
CrO2
NORM, CrO2 EQ SELECT
CrO2
NORM
MASTER OSC MOD 500KHz

T-2620/2S


INPUT
OUTPUT
CH
1 2
REC SELECT
OFF
REC
ON
S
SLAVE-1
SLAVE-2
REC AMPL 1
REC AMPL 2
LOW BOOST EQ
REC MUTE
EQ
BIAS AMPL MOD
NORM
CrO2
NORM,CrO2 EQ SELECT
TR-1(A)
TR-2(B)
MASTER OSC MOD 500KHz
SYMBOLS
AMPLIFIER
REPRODUCE HEAD
PUSH SWITCH
ROTARY FADER
RECORD HEAD
SLIDE SWITCH
SPEAKER
FET or TR SWITCH
GND

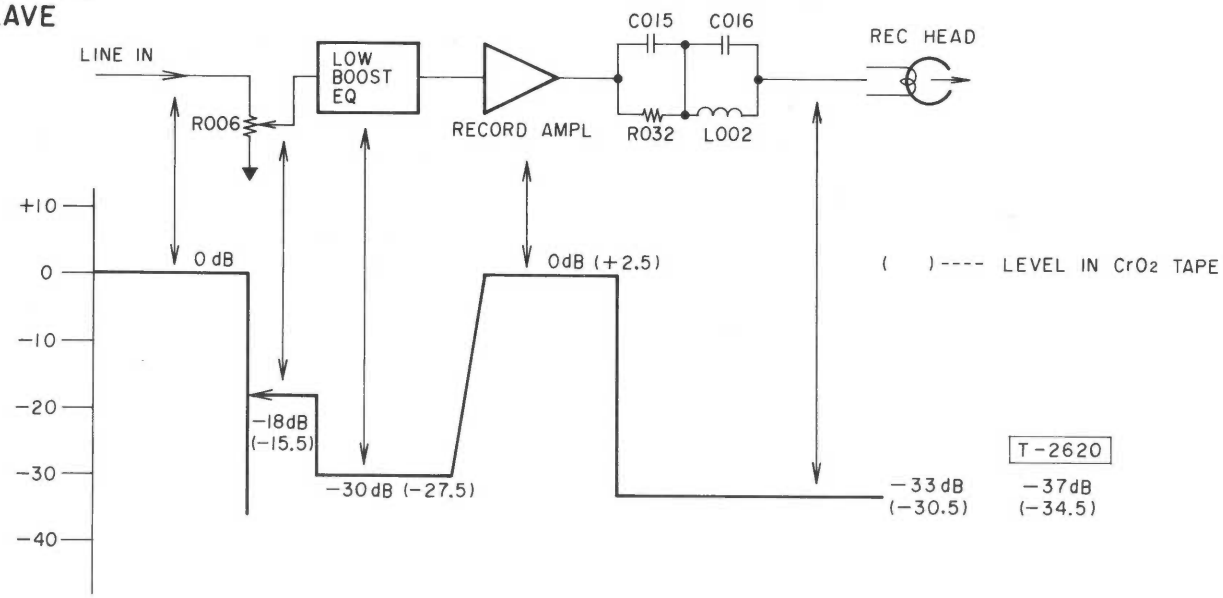
10. LEVEL DIAGRAM





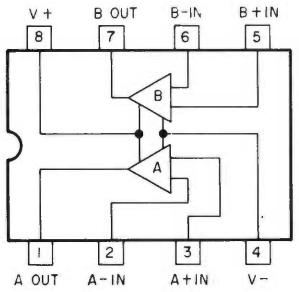
T-2640
T-2620

SLAVE



11. IC INTERNAL CIRCUIT

NJM5532D



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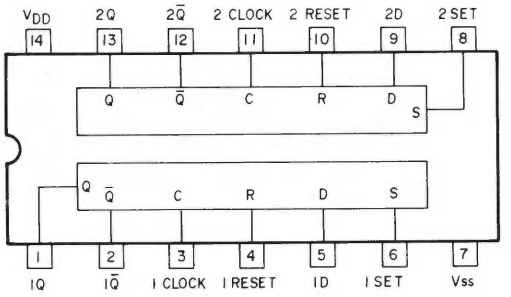

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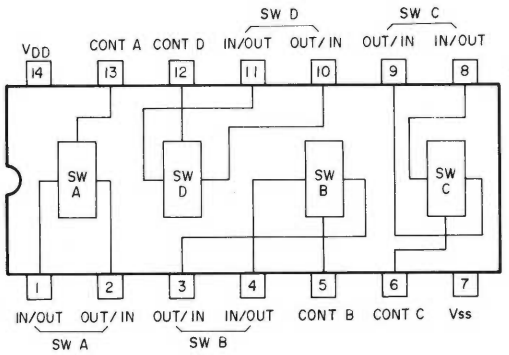

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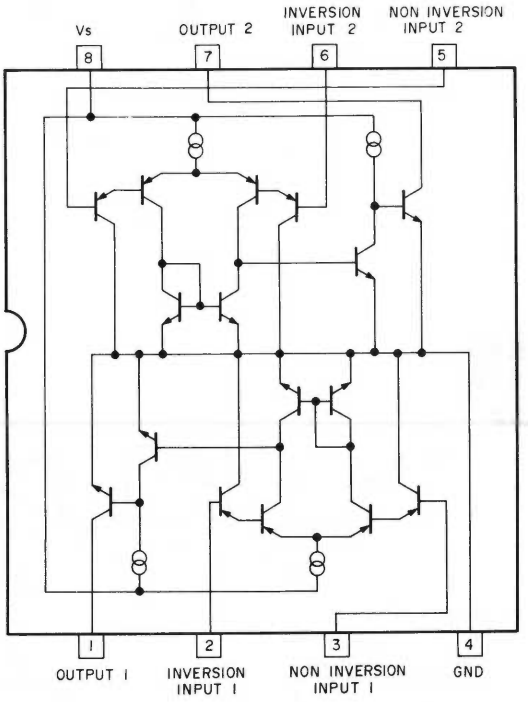
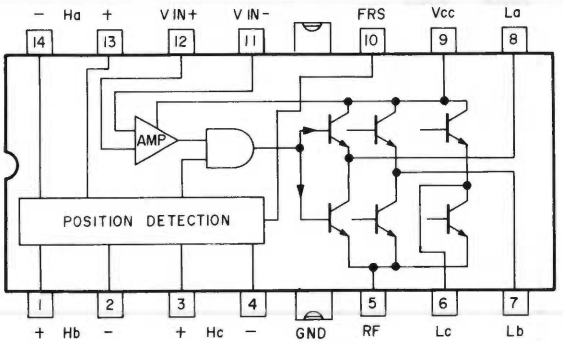


TA7245BP



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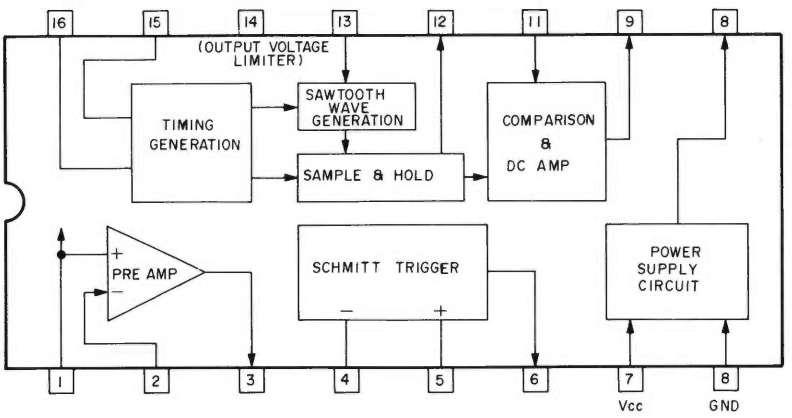
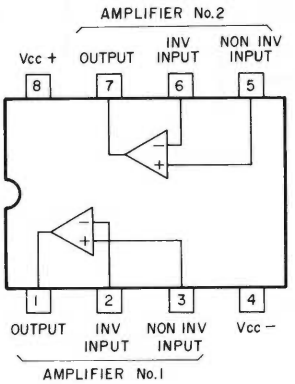
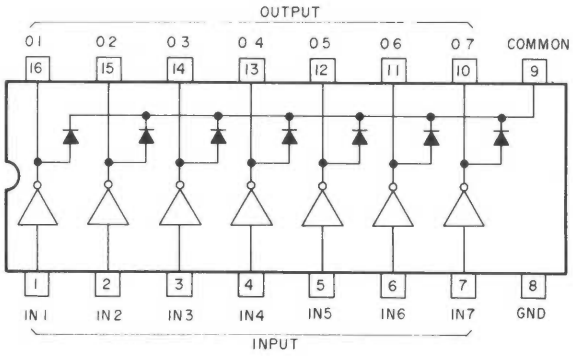


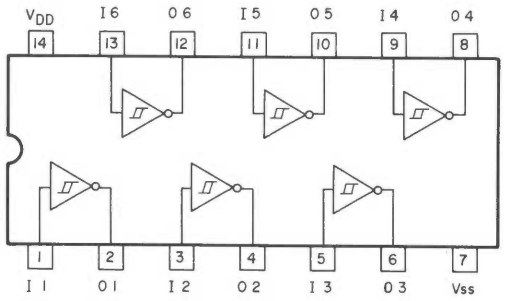
RC4558P



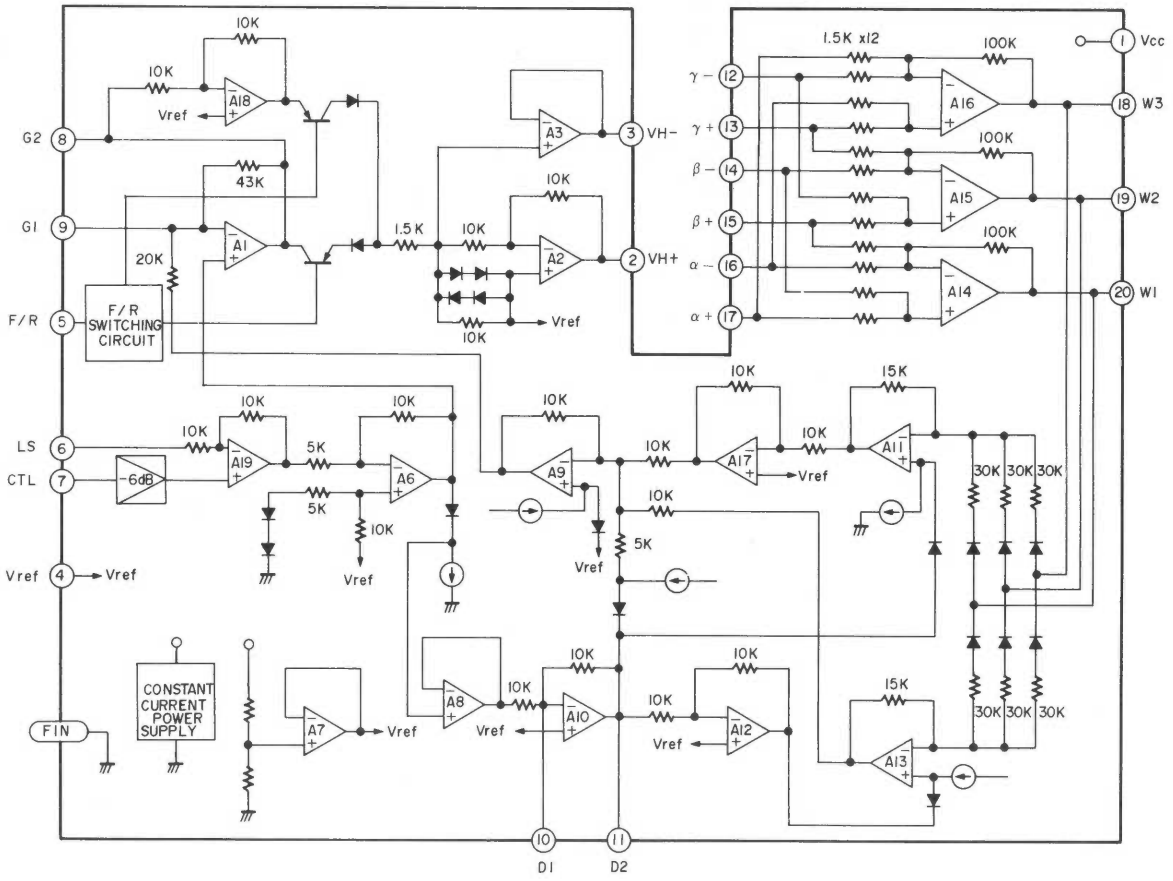
M54523P, M54526P



HD14584BP

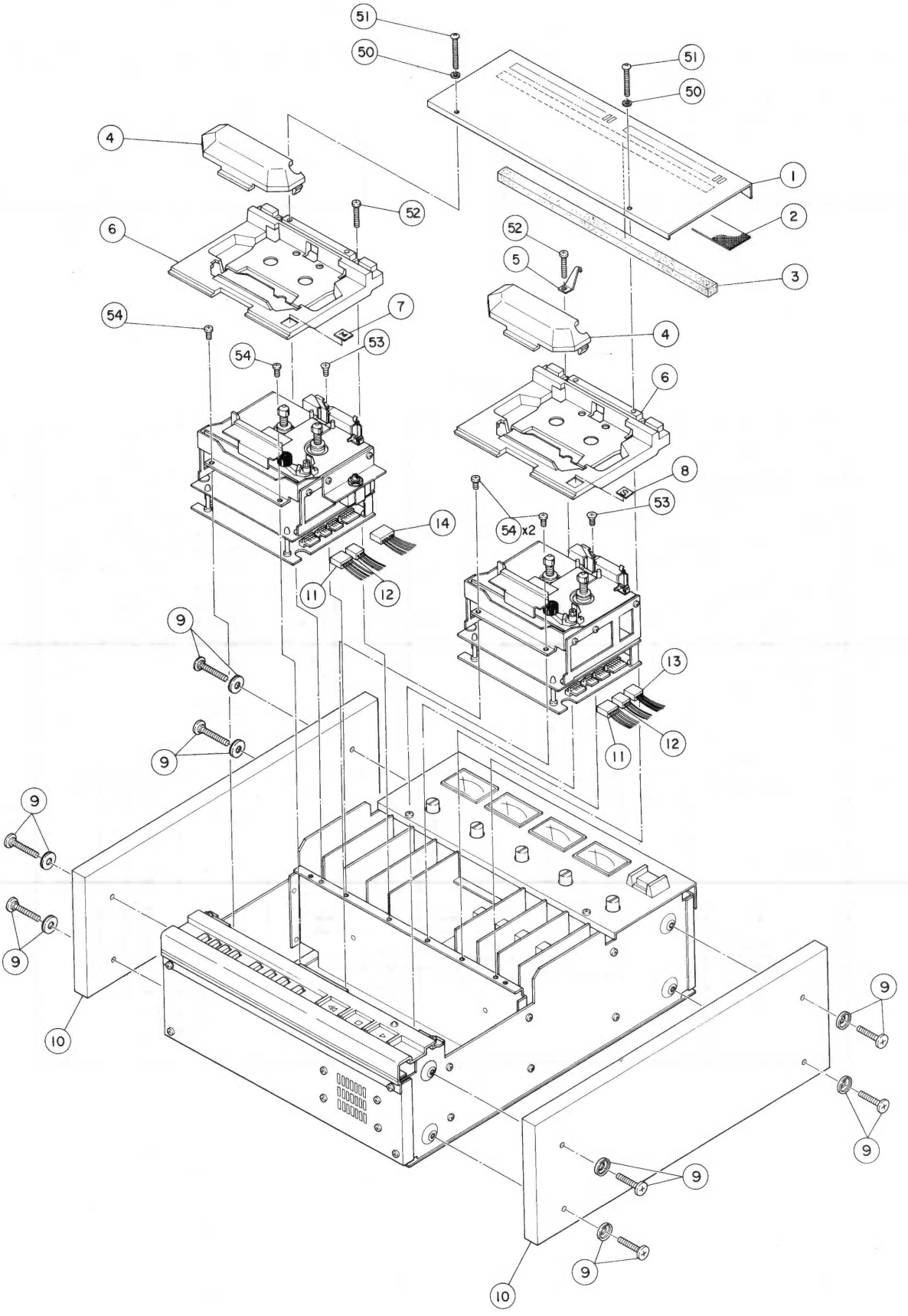


M51712P



12. EXPLODED VIEW AND PARTS LIST

EXPLODED VIEW – 1



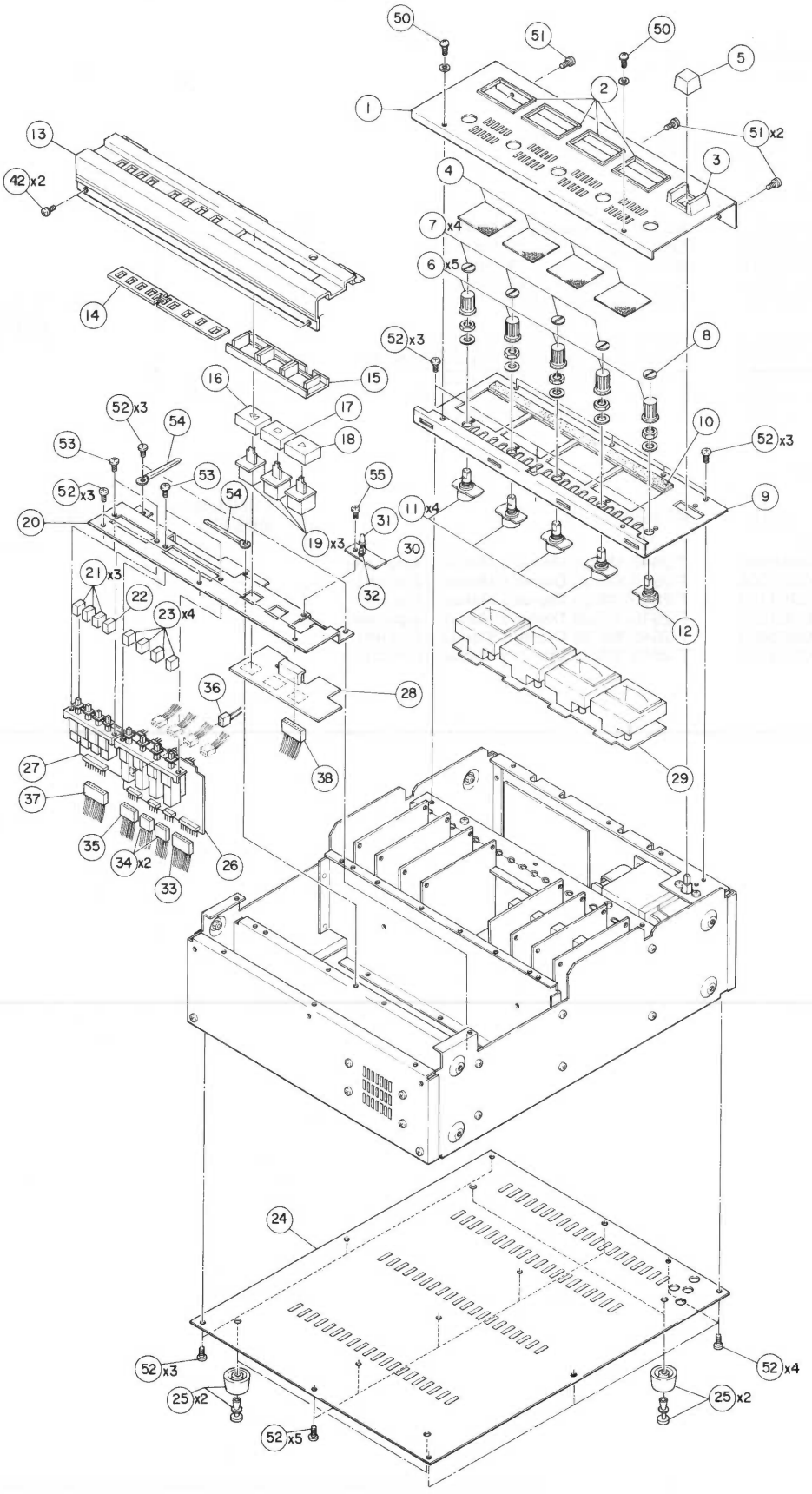
Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
1 - 1	*5800486900	Cover, Front; B		
1 - 2	*5800484900	Net, Screen; B		
1 - 3	*5800678000	Holder, PCB		
1 - 4	*5800483801	Cover, Head		
1 - 5	*5800670000	Spring, Earth		
1 - 6	*5800483500	Holder, Cassette		
1 - 7	*5800483600	Seal, Indication; M		
1 - 8	*5800483700	Seal, Indication; S		
1 - 9	*5504411000	Screw Assy, Side Plate		
1 - 10	*5800485200	Plate, Side		
1 - 11	*5122169000	Socket, Connector; 7P (WHT)		
1 - 12	*5122166600	Socket, Connector; 4P (WHT)		
1 - 13	*5122167000	Socket, Connector; 5P (WHT)		
1 - 14	*5122170000	Socket, Connector; 8P (WHT)		
	*5122241000	Connector Pin; 2759TL		Note: This pin is used in all sockets Ref. No. 1-11 to 1-14.
1 - 50	*5785223000	Washer, Fiber; ϕ3 x ϕ6 x t0.5		
1 - 51	*5780023025	Screw, Binding Head; M3 x 25 (BLK Ni)		
1 - 52	*5780003020	Screw, Binding Head; M3 x 20		
1 - 53	*5780203006	Screw, Flat Countersunk Head; M3 x 6		
1 - 54	*5783003006	Screw, Pan Head S-tite; M3 x 6		

Included Accessories

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
	*5700056900	T-2640/MS·2S Owner's Manual [Japanese]		
	*5700057001	T-2640/MS·2S Owner's Manual [English]		
	*5700057100	T-2640/MS·2S Owner's Manual [French]		
	*5700063500	T-2620/MS·2S Owner's Manual [Japanese]		
	*5700063601	T-2620/MS·2S Owner's Manual [English]		
	*5700063700	T-2620/MS·2S Owner's Manual [French]		

EXPLODED VIEW – 2

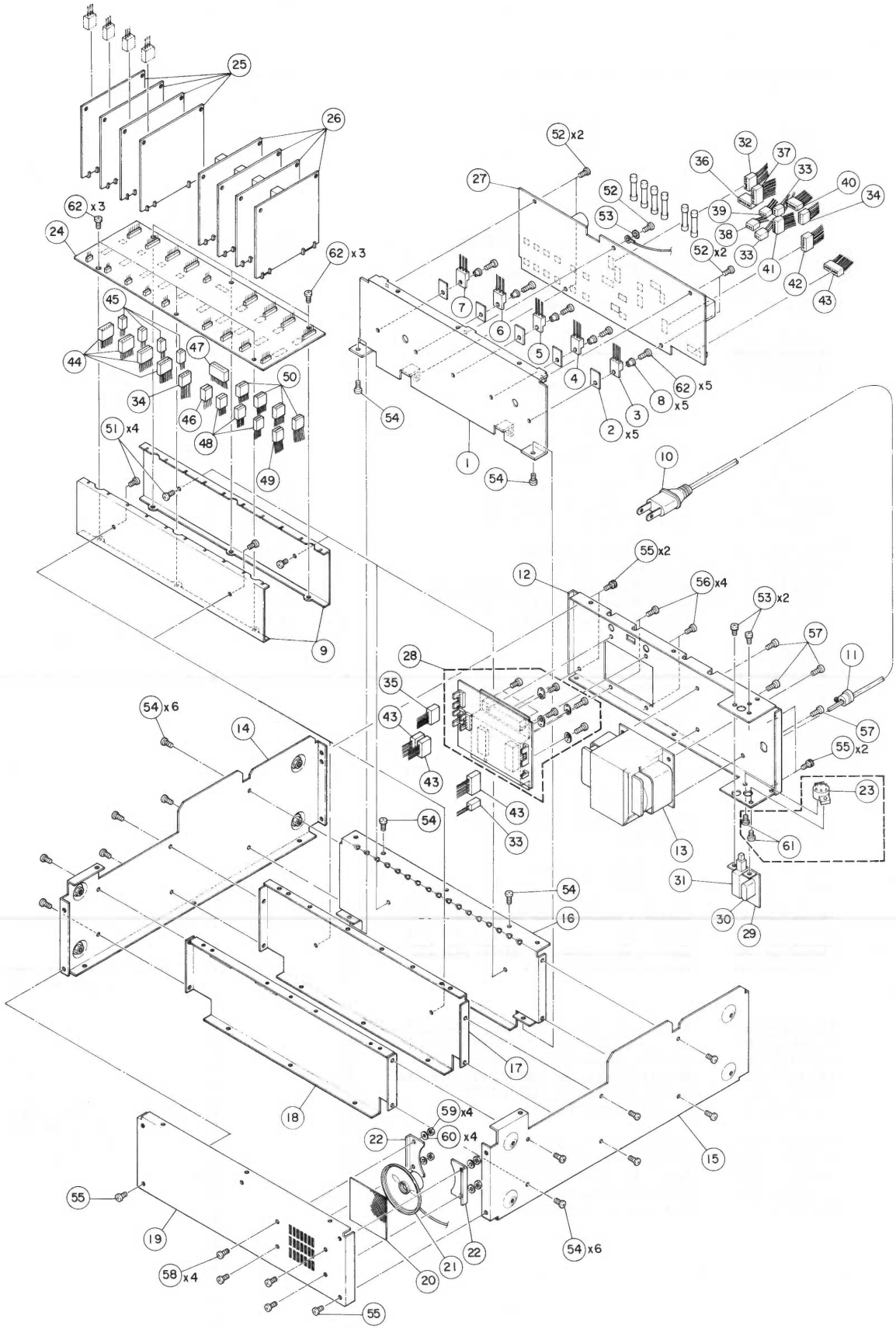


Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
2 - 1	*5800486700	Cover, Front; A (4M)		
	*5800486800	Cover, Front; A (4S, 2S)		
	*5800669700	Cover, Front; A (2M)		
2 - 2	*5800287500	Escutcheon, VU (4M, 2M)	38	
2 - 3	*5800535700	Protector, Button	M-520	
2 - 4	*5800484700	Net, Screen; M (4M, 2M)		
	*5800484800	Net, Screen; S (4S, 2S)		
	*5800671500	Net, Screen; 2M (2M)		
2 - 5	5800173100	Button, POWER	133	
2 - 6	5800382900	Knob, B-15D		
2 - 6	5800382900	Knob, B-15D		
2 - 7	6006054100	Cap, B-15S-2 (Ivory) (4M, 2M)	M-5	
2 - 8	6006056100	Cap, B-15S-2 (Red)	M-5	
2 - 9	*5800486400	Plate, Mounting; 4M (4M, 2M)		
	*5800686500	Plate, Mounting; 4S (4S, 2S)		
2 - 10	*5800485100	Cushion, Meter (4M, 2M/MS)		
2 - 11	5282012900	Resistor, Variable; 10kΩ (B) (4M, 2M)		
2 - 12	5282011600	Resistor, Variable; 10kΩ (A)		
2 - 13	*5800484100	Panel, Front; 4M (4M)		
	*5800484200	Panel, Front; 4S (4S)		
	*5800484300	Panel, Front; 2MS (2M)		
	*5800484400	Panel, Front; 22S (2S)		
2 - 14	*5800484000	Escutcheon, Switch		
2 - 15	*5800483900	Escutcheon, Operation Switch		
2 - 16	5800475501	Button, Operation REW; A	42-NB	
2 - 17	5800475901	Button, Operation STOP; B	42-NB	
2 - 18	5800476001	Button, Operation COPY; C	42-NB	
2 - 19	5302102700	Switch, Tact; KFF10901	42-NB	
2 - 20	*5800486300	Plate, Switch Mounting		
2 - 21	5800147500	Knob, Push Switch (Ivory) (4M, 2M)	M-35	
2 - 22	5800147800	Knob, Push Switch (YEL) (4M, 2M)	M-35	
2 - 23	5800147900	Knob, Push Switch (RED)	M-35	
2 - 24	*5800487000	Chassis, Bottom		
2 - 25	*5730002900	Foot, FF-001		
2 - 26	*5200150401	PCB Assy, CH Selector (4M)		
	*5200150411	PCB Assy, CH Selector (4S)		
	*5200163500	PCB Assy, CH Selector (2M)		
	*5200163510	PCB Assy, CH Selector (2S)		
2 - 27	*5200150500	PCB Assy, Control Switch; MS (4M, 2M)		
2 - 28	*5200150601	PCB Assy, Operation Switch		
2 - 29	*5200149900	PCB Assy, Meter Ampl. (4M)		
	*5200149910	PCB Assy, Meter Ampl. (2M)		
2 - 30	*5210149600	PCB, LED		
2 - 31	5225013300	LED, SLP530D 2-Color		
2 - 32	*5800304901	Collar, LED; A		
2 - 33	*5336124500	Socket, Connector; 5P (WHT) (4M, 2M)		
	*5336124900	Socket, Connector; 9P (WHT) (4S, 2S)		
2 - 34	*5336124400	Socket, Connector; 4P (WHT) (4M, 2M)		
	*5336124700	Socket, Connector; 7P (WHT) (4S, 2S)		
	*5336130200	Connector Pin, 8263TL		Note: This pin is used in all sockets Ref. No. 2-33, 2-34.
2 - 35	*5336124800	Socket, Connector; 8P (WHT) (4M, 2M)		
	*5336125200	Socket, Connector; 12P (WHT) (4S, 2S)		
2 - 36	*5336124200	Socket, Connector; 2P (WHT)		
2 - 37	*5336125000	Socket, Connector; 10P (WHT) (4M, 2M)		
2 - 38	*53361250	Socket, Connector; 10P (WHT)		
	*5336130200	Connector Pin, 8263TL		Note: This pin is used in all sockets Ref. No. 2-35 to 2-38.
2 - 50	*5780923008	Screw, Truss Head Tapping; M3 x 8		
2 - 51	*5783533006	Screw, Binding Head B-tite; M3 x 6		
2 - 52	*5783003006	Screw, Pan Head S-tite; M3 x 6		
2 - 53	*5780003005	Screw, Binding Head; M3 x 5		
2 - 54	*5786713000	Clip, Harness, $\phi 3 \times \phi 8$		

(4M) . . . T-2640/MS, (4S) . . . T-2640/2S, (2M) . . . T-2620/MS, (2S) . . . T-2620/2S

EXPLODED VIEW – 3



Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
3 - 1	*5800486600	Heat Sink		
3 - 2	*5033291000	Plate, Insulation		
3 - 3	⚠ 5220415600	Regulator, NJM7815A; U003		
3 - 4	⚠ 5220415500	Regulator, NJM7812A; U001		
3 - 5	⚠ 5220420500	Regulator, NJM79M15A; U005		
3 - 6	⚠ 5220413100	Regulator, NJM78M15A; U004		
3 - 7	⚠ 5220413400	Regulator, NJM78M24A; U002		
3 - 8	*5033295000	Tube, Insulation		
3 - 9	*5800485600	Support, PCB		
3 - 10	⚠*5128027000	Cord, AC Power [J]		
	⚠*5350010800	Cord, AC Power [U, C, GE]		
	⚠*5350008200	Cord, AC Power [E]		
	⚠*5128047000	Cord, AC Power [UK]		
	⚠*5350008300	Cord, AC Power [A]		
3 - 11	⚠*5534660000	Strain Relief, AC Power Cord [Except UK]		
	⚠*5317001700	Strain Relief, AC Power Cord [UK]		
3 - 12	*5800486100	Chassis, Rear (4M)		
	*5800486200	Chassis, Rear (4S)		
3 - 13	⚠ 5320030600	Transformer, Power [J]		
	⚠ 5320030700	Transformer, Power [U, C]		
	⚠ 5320030800	Transformer, Power [GE]		
	⚠ 5320030900	Transformer, Power [E, UK, A]		
3 - 14	*5800485700	Chassis, Side; L		
3 - 15	*5800485800	Chassis, Side; R		
3 - 16	*5800485300	Chassis, A		
3 - 17	*5800485400	Chassis, B		
3 - 18	*5800485500	Chassis, C		
3 - 19	*5800485900	Chassis, Front (4M)		
	*5800486000	Chassis, Front (4S)		
3 - 20	*5800484600	Net, Screen; SP		
3 - 21	5347002800	Speaker, EAS-65P01S		
3 - 22	*6024362000	Plate, Speaker Mounting		
3 - 23	⚠ 5302101700	Switch, Voltage Selector; FS907G [GE]		
3 - 24	*5200149701	PCB Assy, Mother; M (4M)		
	*5200149711	PCB Assy, Mother; M (2M)		
	*5200149801	PCB Assy, Mother; S (4S)		
	*5200149811	PCB Assy, Mother; S (2S)		
3 - 25	*5200149300	PCB Assy, REPRO Ampl. (4M, 2M)		
3 - 26	*5200149400	PCB Assy, REC Ampl.		
3 - 27	*5200150000	PCB Assy, Power Supply (4M) [J, U, C, GE]		
	*5200150010	PCB Assy, Power Supply (4M) [E, UK, A]		
	*5200150020	PCB Assy, Power Supply (4S) [J, U, C, GE]		
	*5200150030	PCB Assy, Power Supply (4S) [E, UK, A]		
	*5200150040	PCB Assy, Power Supply (2M) [J, U, C, GE]		
	*5200150050	PCB Assy, Power Supply (2M) [E, UK, A]		
	*5200150060	PCB Assy, Power Supply (2S) [J, U, C, GE]		
	*5200150070	PCB Assy, Power Supply (2S) [E, UK, A]		
3 - 28	*5200150200	PCB Assy, Connector; M (4M, 2M)		
	*5200150300	PCB Assy, Connector; S (4S, 2S)		
3 - 29	*5210073201	PCB, Power Switch	V-1RX	

(4M) . . . T-2640/MS, (4S) . . . T-2640/2S, (2M) . . . T-2620/MS, (2S) . . . T-2620/2S
[U] : U.S.A., [C] : CANADA, [GE] : GENERAL EXPORT, [A] : AUSTRALIA, [E] : EUROPE, [UK] : UK, [J] : JAPAN

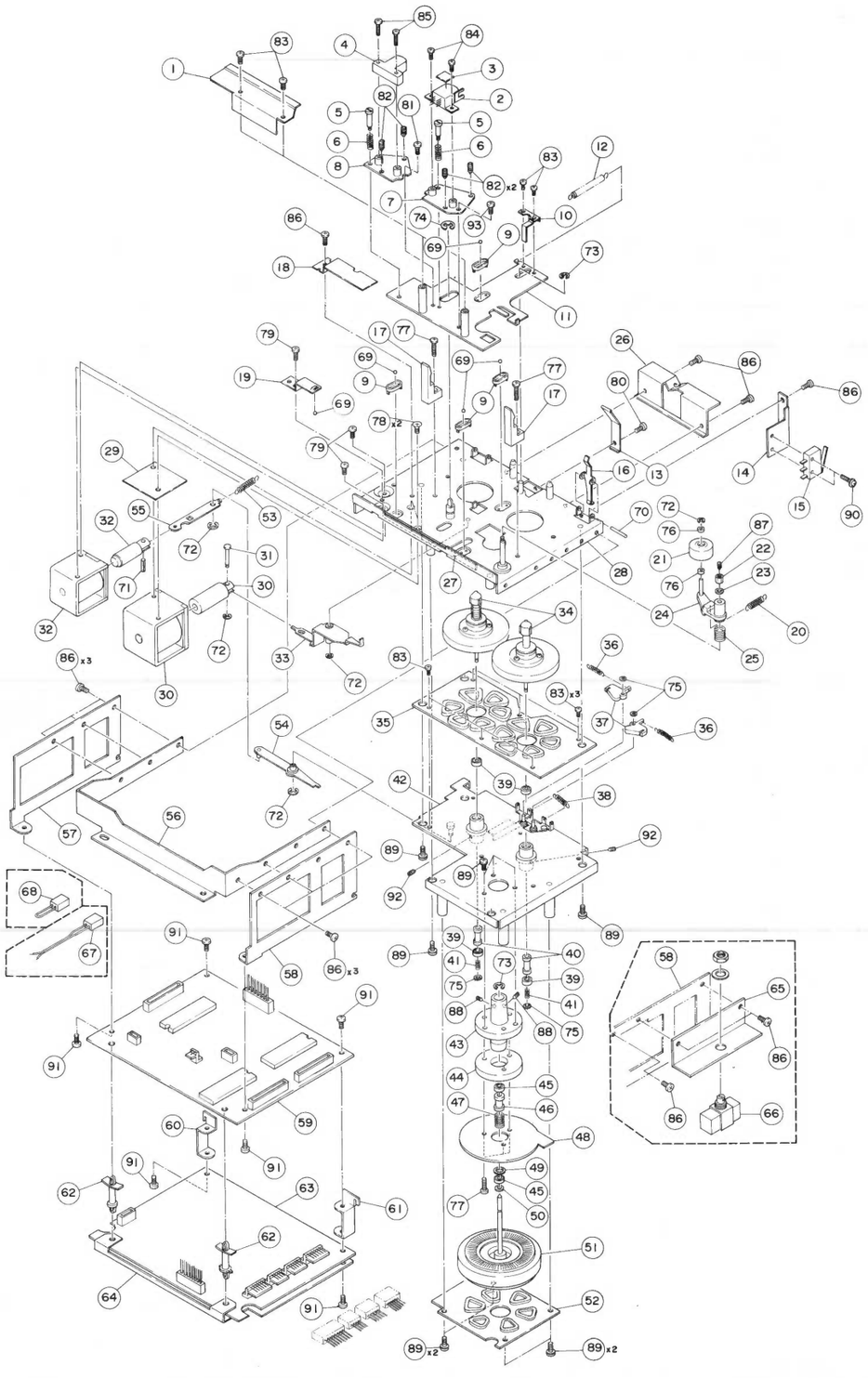
Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
3 - 30	⚠ 5292002500	Spark Killer, 0.01μF + 300/300V [J, GE]		
	⚠ 5052910000	Spark Killer, 0.033μF + 120/125V UL [U]		
	⚠ 5292002600	Spark Killer, 0.033μF + 120/125V [C]		
	⚠ 5267703700	Spark Killer, 4700pF 400V M [E, UK, A]		
3 - 31	⚠ 5300030800	Switch, Push POWER; SDL-1P PCB		
3 - 32	*5336124600	Socket, Connector; 6P (WHT)		
3 - 33	*5336124200	Socket, Connector; 2P (WHT)		
3 - 34	*5336124400	Socket, Connector; 4P (WHT)		
3 - 35	*5336124700	Socket, Connector; 7P (WHT)		
3 - 36	*5336124500	Socket, Connector; 5P (WHT)		
3 - 37	*5336124800	Socket, Connector; 8P (WHT)		
3 - 38	*5336131300	Socket, Connector; 3P (RED)		
3 - 39	*5336124300	Socket, Connector; 3P (WHT)		
3 - 40	*5336124500	Socket, Connector; 5P (WHT) (4M, 2M)		
	*5336124900	Socket, Connector; 9P (WHT) (4S, 2S)		
3 - 41	*5336143700	Socket, Connector; 7P (YEL) (4M, 2M)		
	*5336143400	Socket, Connector; 4P (YEL) (4S, 2S)		
3 - 42	*5336133600	Socket, Connector; 6P (BLK) (4M, 2M)		
	*5336133400	Socket, Connector; 4P (BLK) (4S, 2S)		
3 - 43	*5336124800	Socket, Connector; 8P (WHT) (4M, 4S)		
	*5336124400	Socket, Connector; 4P (WHT) (2M, 2S)		
3 - 44	*5336124600	Socket, Connector; 6P (WHT) (4M, 2M)		
	*5336124400	Socket, Connector; 4P (WHT) (4S)		
3 - 45	*5336124200	Socket, Connector; 2P (WHT) (4M, 2M)		
	*5336124500	Socket, Connector; 5P (WHT) (4S)		
3 - 46	*5336124400	Socket, Connector; 4P (WHT) (4S, 2S)		
3 - 47	*5336124700	Socket, Connector; 7P (WHT) (4M, 2M)		
	*5336124500	Socket, Connector; 5P (WHT) (4S, 2S)		
3 - 48	*5336124400	Socket, Connector; 4P (WHT) (4M, 2M)		
	*5336124500	Socket, Connector; 5P (WHT) (4S, 2S)		
3 - 49	*5336124700	Socket, Connector; 7P (WHT) (4M, 2M)		
	*5336124800	Socket, Connector; 8P (WHT) (4S, 2S)		
3 - 50	*5336124500	Socket, Connector; 5P (WHT) (4M, 2M)		
	*5336124600	Socket, Connector; 6P (WHT) (4S, 2S)		
	*5336130200	Connector Pin, 8263TL		Note: This pin is used in all sockets Ref. No. 3-32 to 3-50.
3 - 51	*5783003005	Screw, Pan Head S-tite; M3 x 5		
3 - 52	*5783033006	Screw, Binding Head S-tite; M3 x 6		
3 - 53	*5785123000	Washer, External Teeth; ϕ3		
3 - 54	*5783003006	Screw, Pan Head S-tite; M3 x 6		
3 - 55	*5783533006	Screw, Binding Head B-tite; M3 x 6 (BLK Ni)		
3 - 56	*5783523006	Screw, Pan Head S-tite; M3 x 6 (BLK Ni)		
3 - 57	*5783524008	Screw, Pan Head S-tite; M4 x 8		
3 - 58	*5780023008	Screw Binding Head; M3 x 8 (BLK Ni)		
3 - 59	*5781813000	Nut, M3		
3 - 60	*5785013000	Washer, Flat; ϕ3.2 x ϕ8 x t0.5		
3 - 61	*5781023008	Screw, Pan Head Tapping; M3 x 8		
3 - 62	*5780003006	Screw, Binding Head; M3 x 6		

(4M) . . . T-2640/MS, (4S) . . . T-2640/2S, (2M) . . . T-2620/MS, (2S) . . . T-2620/2S
[U] : U.S.A., [C] : CANADA, [GE] : GENERAL EXPORT, [A] : AUSTRALIA, [E] : EUROPE, [UK] : U.K., [J] : JAPAN

T-2640/MS·2S/T-2620/MS·2S

EXPLODED VIEW – 4



Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
4 - 1	*5760916100	Cover, Head Protection		
4 - 2	5378903100	Head, Playback; 4-4 (4M)		
	5378903300	Head, Playback; 2-2 (2M)		
	5378903000	Head, Record; 4-4 (4S)		
	5378903200	Head, Record; 2-2 (2S)		
4 - 3	*5720148400	Seal, Playback Head; 4-4 (4M)		
	*5720156000	Seal, Playback Head; 2-2 (2M)		
	*5720148500	Seal, Record Head; 4-4 (4S)		
	*5720156100	Seal, Record Head; 2-2 (2S)		
4 - 4	*5760911500	Guide, Tape		
4 - 5	5760911300	Screw, Azimuth Spring		
4 - 6	5760911200	Spring, Azimuth		
4 - 7	5760911000	Plate Assy, Head; A		
4 - 8	5760911100	Plate Assy, Head; B		
4 - 9	*5760910000	Guide, Ball		
4 - 10	*5760911400	Cancellation Plate, Brake		
4 - 11	*5760910900	Table Assy, Head		
4 - 12	*5760911600	Spring, Head Table Return; T		
4 - 13	*5760910800	Pressure, Cassette		
4 - 14	*5760914700	Mounting Plate, Micro Switch		
4 - 15	5760914800	Switch, Micro		
4 - 16	*5760910700	Lever, Cassette Detection		
4 - 17	*5760909900	Holder, Cassette		
4 - 18	*5760911700	Plate, Head Table Holder		
4 - 19	*5760912400	Holder, Ball		
4 - 20	5760912300	Spring, Pinch Roller Pressure		
4 - 21	5760911901	Roller Assy, Pinch		
4 - 22	5760912000	Nut, Pinch Roller Position		
4 - 23	*5760912200	Washer, Nylon; ϕ3 x ϕ6 x t0.5		
4 - 24	5760911800	Arm Shaft Assy, Pinch Roller		
4 - 25	5760912100	Spring, Pinch Roller		
4 - 26	*5760914300	Mounting Plate, Mechanism; B		
4 - 27	*5760910100	Cushion		
4 - 28	*5760909800	Chassis Assy, Mechanism; T		
4 - 29	*5760934200	Sheet, Rubber		
4 - 30	5760910301	Solenoid (L)		
4 - 31	*5760910600	Pin, Solenoid; A		
4 - 32	5760910400	Solenoid (S)		
4 - 33	*5760910200	Plate Assy, Joint; C		
4 - 34	5760914100	Motor Assy, Reel		
4 - 35	5760912700	PCB Assy, Reel		
4 - 36	*5760913900	Spring, Brake Arm Return		
4 - 37	5760914000	Arm Assy, Brake		
4 - 38	*5760913800	Spring, Brake		
4 - 39	5760914200	Bearing		
4 - 41	5760914500	Spring, Reservation Pressure		
4 - 42	*5760912500	Chassis Assy, Motor		
4 - 43	5760912900	Housing, Capstan		
4 - 44	*5760913100	Spacer, FG PCB		

(4M) . . . T-2640/MS, (4S) . . . T-2640/2S, (2M) . . . T-2620/MS, (2S) . . . T-2620/2S

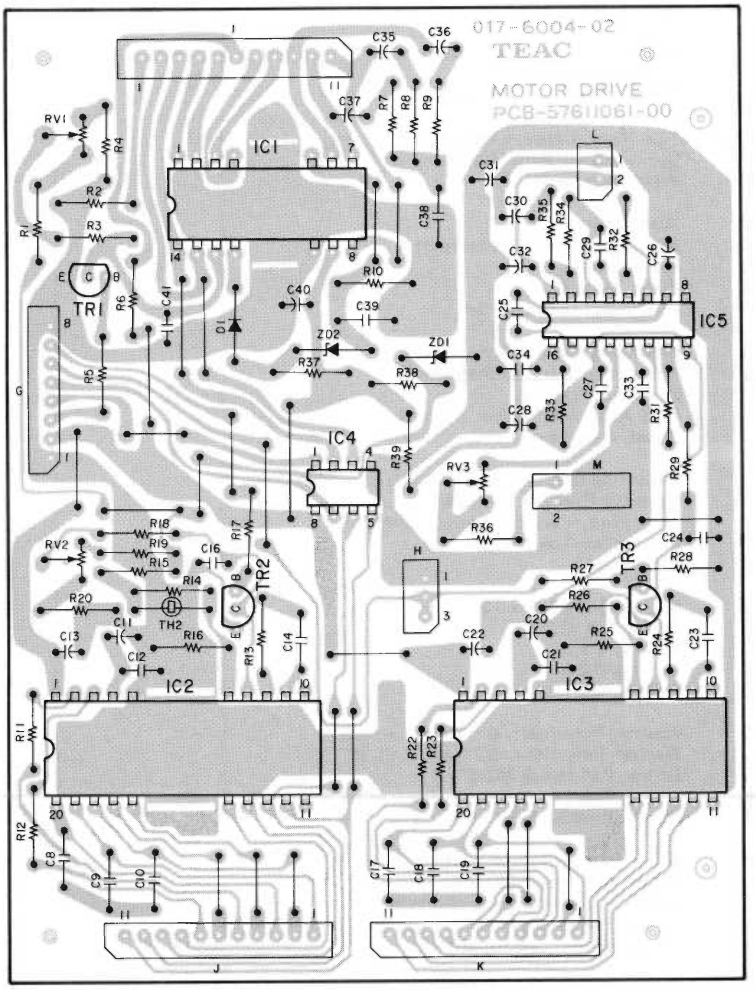
Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	COMMON MODELS	REMARKS
4 - 45	5760913400	Bearing, Ball		
4 - 46	5760913500	Collar, Capstan		
4 - 47	5760913300	Spring, Reservation Pressure (Cap)		
4 - 48	5760913000	PCB, FG		
4 - 49	5760913600	Washer, Nylon; ϕ5.2 x ϕ8 x t0.5		
4 - 50	5760913200	Collar, Reservation Pressure		
4 - 51	5760912800	Flywheel Assy		
4 - 52	5760913700	PCB Assy, Capstan Motor		
4 - 53	*5760914600	Spring, Joint Arm Return		
4 - 54	*5760912600	Plate Assy, Joint; A		
4 - 55	*5760910500	Arm, Joint		
4 - 56	*5760915100	Mounting Plate, Mechanism; A		
4 - 57	*5760914900	Plate, Side; L		
4 - 58	*5760915000	Plate, Side; R		
4 - 59	*5200155100	PCB Assy, Motor Drive		
4 - 60	*5760915500	Mounting Plate, Mechanism; L		
4 - 61	*5760915600	Mounting Plate, Mechanism; R		
4 - 62	*5760915700	Support, Rocking		
4 - 63	*5200155000	PCB Assy, Mechanism Control		
4 - 64	*5760915900	Sheet, Protection		
4 - 65	*5760915200	Mounting Bracket, Variable Resistor (4M, 2M)		
4 - 66	5282013600	Variable Resistor (4M, 2M)		
4 - 67	*5760915300	Lead Wire, Variable Resistor (4M, 2M)		
4 - 68	*5760915400	Connector Assy, 2P (4S, 2S)		
4 - 69	5540055000	Ball, Steel		
4 - 70	*5786301212	Spring Pin, ϕ1.2 x 12		
4 - 71	*5786302008	Spring Pin, ϕ2 x 8		
4 - 72	*5786001500	E-Ring, ϕ1.5		
4 - 73	*5786002500	E-Ring, ϕ2.5		
4 - 74	*5786004000	E-Ring, ϕ4		
4 - 75	*5786301200	Washer, Polyslider; ϕ1.7 x ϕ4 x t0.5		
4 - 76	*5785302500	Washer, Polyslider; ϕ2 x ϕ4 x t0.25		
4 - 77	*5780102608	Screw, Pan Head; M2.6 x 8		
4 - 78	*5780203005	Screw, Flat Countersunk Head; M3 x 5		
4 - 79	*5780003004	Screw, Binding Head; M3 x 4		
4 - 80	*5783033005	Screw, Binding Head S-tite; M3 x 5		
4 - 81	*5780102006	Screw, Pan Head; M2 x 6		
4 - 82	*5782023005	Set Screw, Hex Socket (Cone Point); M3 x 5		
4 - 83	*5780102003	Screw, Pan Head; M2 x 3		
4 - 84	*5780002003	Screw, Binding Head; M2 x 3		
4 - 85	*5780002010	Screw, Binding Head; M2 x 10		
4 - 85	*5780002010	Screw, Binding Head; M2 x 10		
4 - 86	*5780003005	Screw, Binding Head; M3 x 5		
4 - 87	*5782013003	Set Screw, Hex Socket (Cup Point); M3 x 3		
4 - 88	*5782012603	Set Screw, Hex Socket (Cup Point); M2.6 x 3		
4 - 89	*5780133005	Screw, Pan Head SEMS; M3 x 5		
4 - 90	*5780132010	Screw, Pan Head SEMS; M2 x 10		
4 - 91	*5780003006	Screw, Binding Head; M3 x 6		
4 - 92	*5782012604	Set Screw, Hex Socket (Cup Point); M2.6 x 4		
4 - 93	*5780102606	Screw, Pan Head; M2.6 x 6		

(4M) . . . T-2640/MS, (4S) . . . T-2640/2S, (2M) . . . T-2620/MS, (2S) . . . T-2620/2S

13. PC BOARD AND PARTS LIST

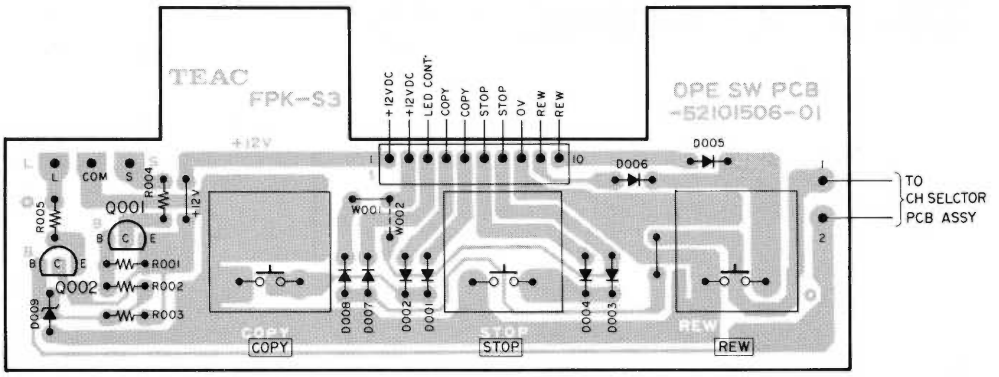
MOTOR DRIVE PCB ASSY



TR1~TR3--2SC1815GR
IC1 ------TA7245
IC2,IC3---M51712
IC4--NJM2903D
IC5--μPC1043C

MOTOR DRIVE PCB ASSY

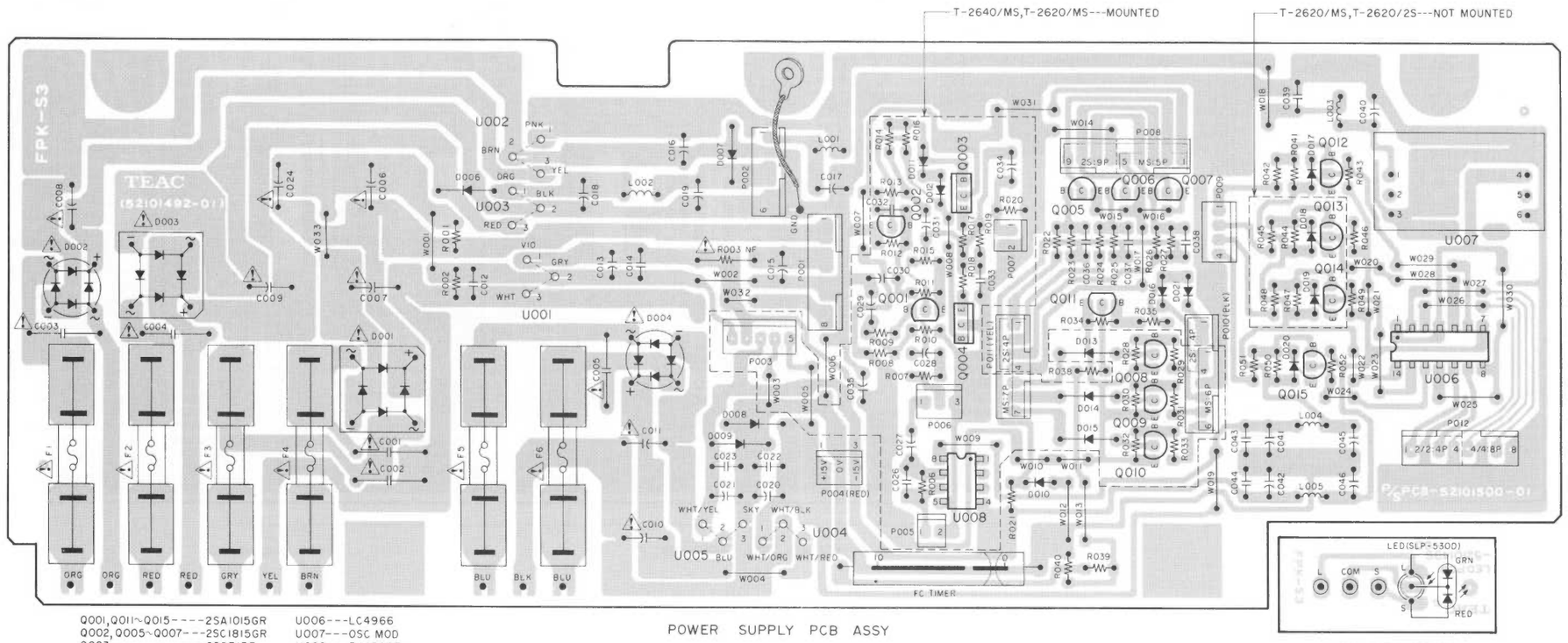
OPERATION SWITCH PCB ASSY



Q001------2SA1015GR
Q002------2SC1815GR
D001~D008---1SS133T77
D009------RD9.1EB2

OPERATION SWITCH PCB ASSY

POWER SUPPLY PCB ASSY & LED PCB ASSY



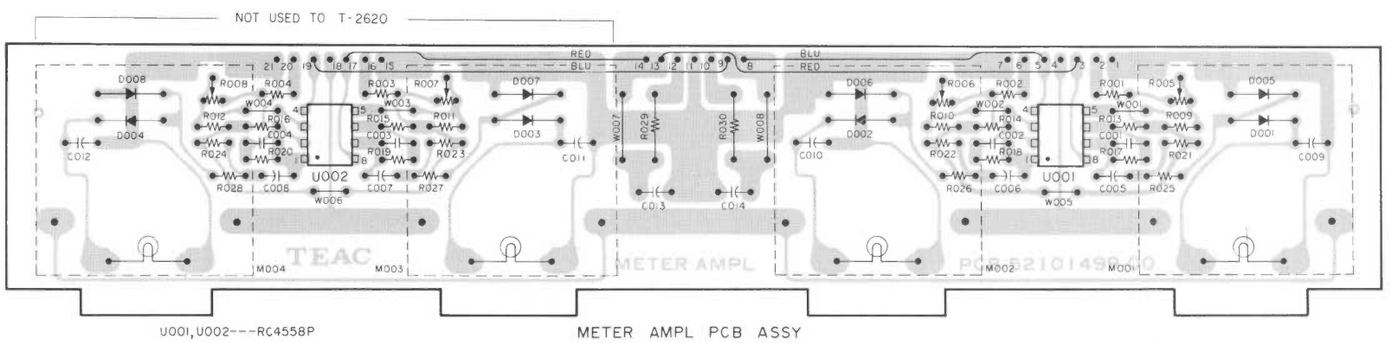
Q001,Q011~Q015----2SA1015GR
Q002,Q005~Q007--2SC1815GR
Q003----------2SD313E
Q004----------2SB507E
Q008~Q010------2SA1020Y

U006---LC4966
U007---OSC MOD
U008---RC4588P

POWER SUPPLY PCB ASSY

LED PCB ASSY

METER AMPL PCB ASSY



U001,U002---RC4558P

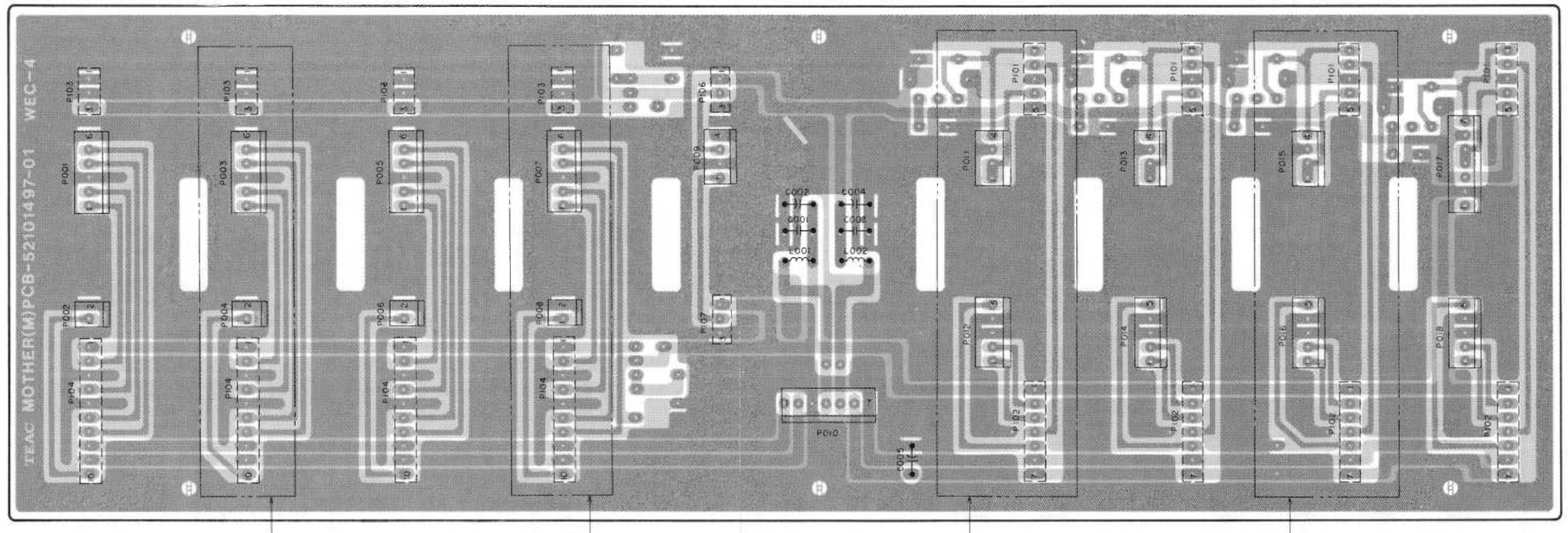
METER AMPL PCB ASSY

NOTES

1. PC boards are shown viewed from foil side.
2. The colors on the PC board illustrations have the following significance:
   : Pattern Side
   : Parts Side
3. ⚠ Parts marked with this sign are safety critical components.
   They must always be replaced with identical components. Refer to the appropriate parts list to ensure exact replacement.

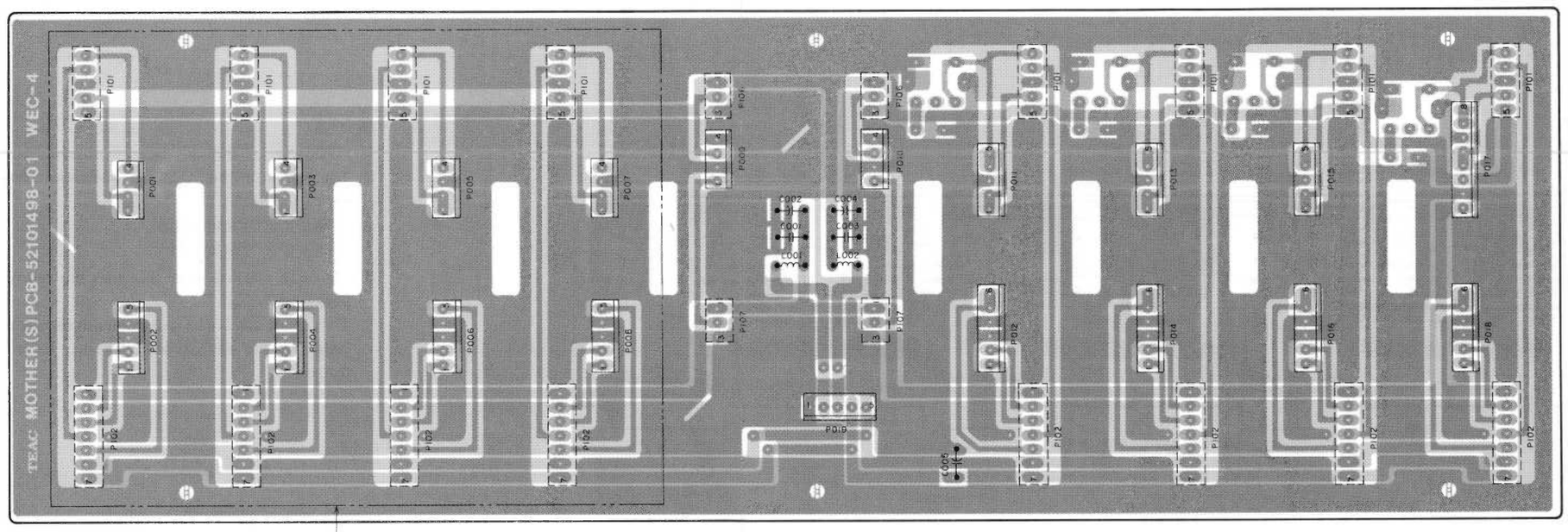
T-2640/MS·2S/T-2620/MS·2S

MOTHER PCB ASSY (M)



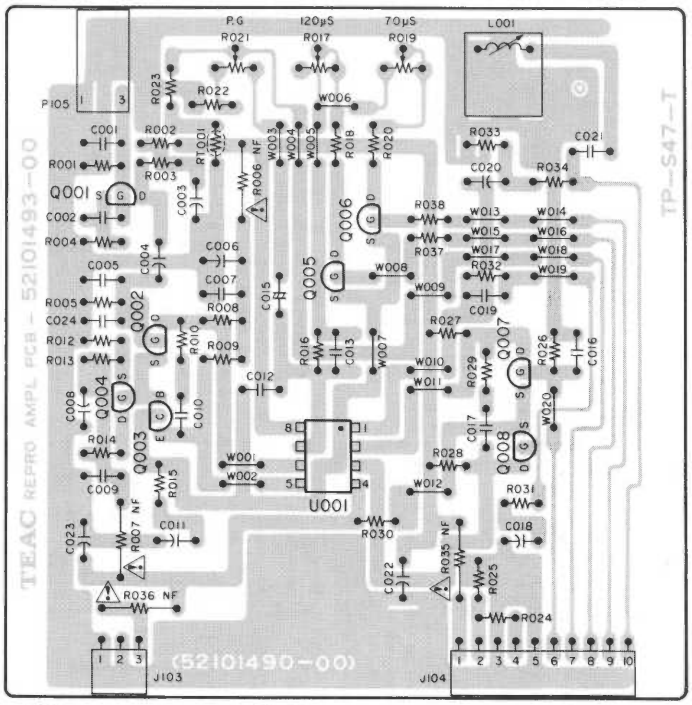
MOTHER PCB ASSY (M)

MOTHER PCB ASSY (S)



MOTHER PCB ASSY (S)

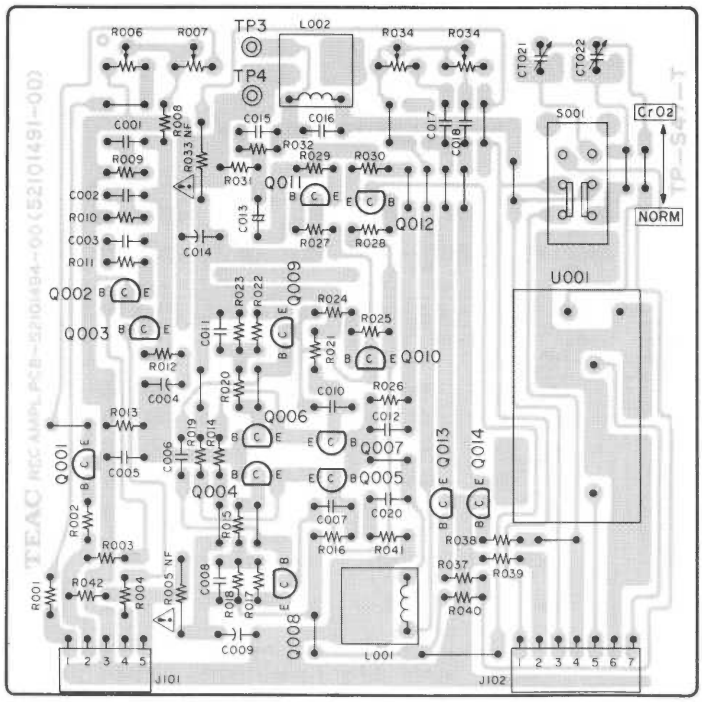
REPRO AMPL PCB ASSY



U001 ---------- NJM5532
Q001~Q003, Q005~Q008 --- 2SK68A(M)
Q004 ---------- 2SC1815(GR)
RT001 ---------- S5C-34

REPRO AMPL. PCB ASSY

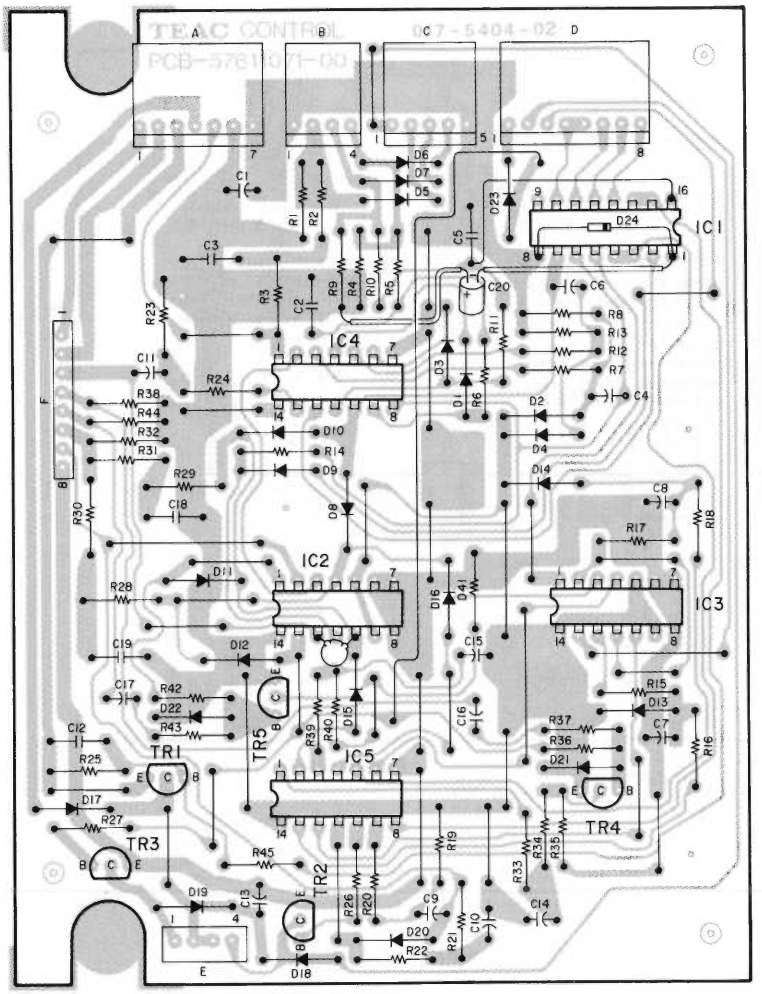
REC AMPL PCB ASSY



Q001~Q003, Q013, Q014 --- 2SC2878B
Q004, Q005, Q009, Q012 --- 2SA1015 GR
Q006~Q008, Q010, Q011 --- 2SC1815 GR

REC AMPL. PCB ASSY

CONTROL PCB ASSY

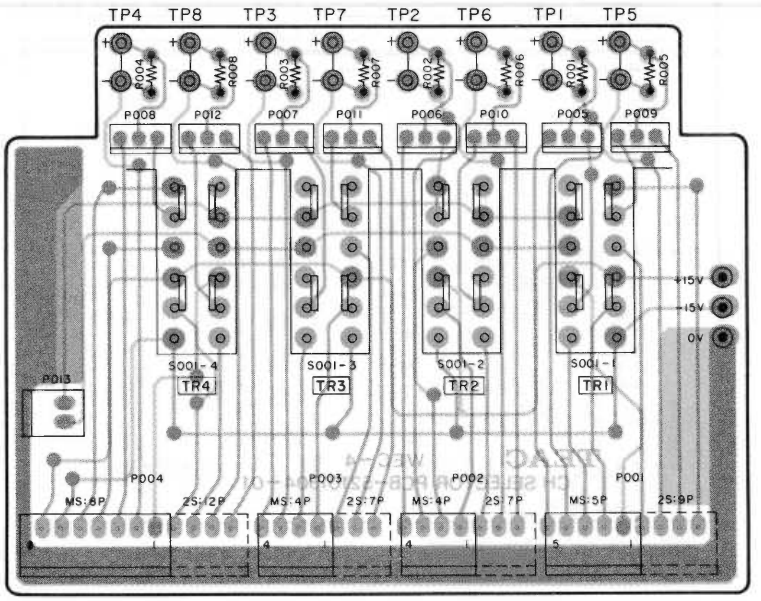


TR1--- 2SB596Y
TR2,TR3 – 2SD1153
TR4,TR5 – 2SA1015

IC1--- M54526P
IC2,IC3 – TC4013BP
IC4,IC5 – TC4584BP

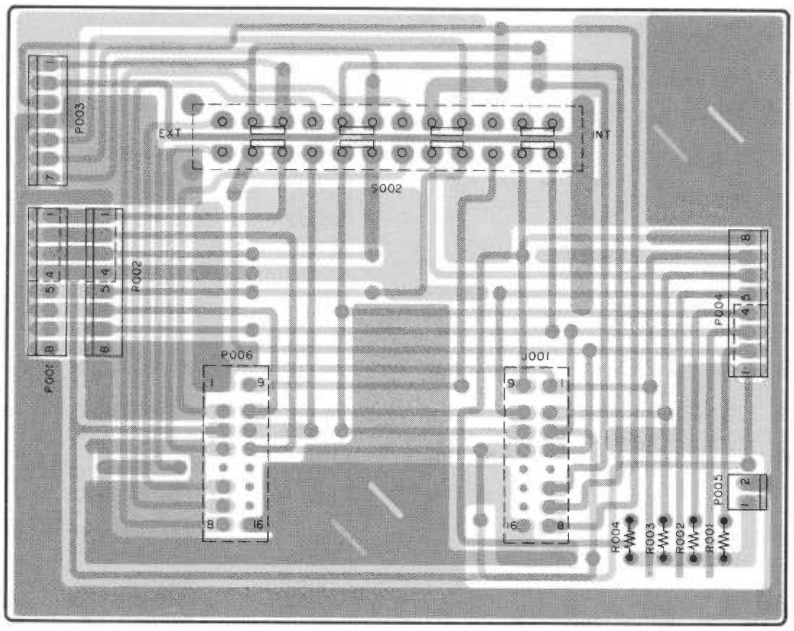
CONTROL PCB ASSY

CH SELECTOR PCB ASSY



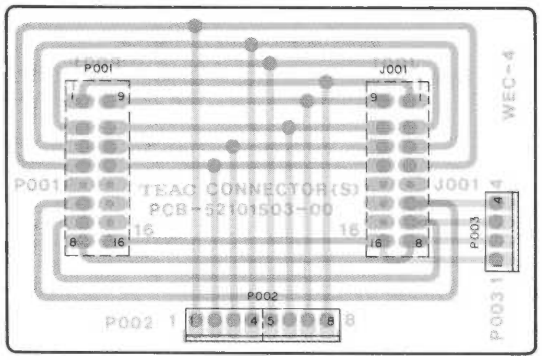
CH SELECTOR PCB ASSY

CONNECTOR PCB ASSY (M)



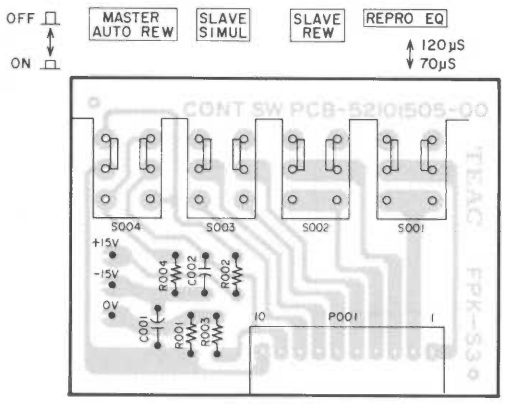
CONNECTOR PCB ASSY (M)

CONNECTOR PCB ASSY (S)



CONNECTOR PCB ASSY (S)

CONTPOL SWITCH PCB ASSY



CONTROL SWITCH PCB ASSY

POWER SUPPLY PCB ASSY (T-2640/MS, T-2620/MS)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150001	PCB Assy (T-2640/MS) [J, U, C, GE]
	*5200150011	PCB Assy (T-2640/MS) [E, UK, A]
	*5200150041	PCB Assy (T-2620/MS) [J, U, C, GE]
	*5200150051	PCB Assy (T-2620/MS) [E, UK, A]
	*5210150001	PCB
	FUSES	
F001	⚠5307019900	0.5A 250V, UL [J, U, C, GE]
F001	⚠5041138000	T500mA 250V, Mini [E, UK, A]
F002	⚠5307021000	2A 250V, UL [J, U, C, GE]
F002	⚠5142189000	T2A 250V, Mini [E, UK, A]
F003, F004	⚠5307021200	2.5A 250V, UL [J, U, C, GE]
F003, F004	⚠5142190000	T2.5A 250V, Mini [E, UK, A]
F005, F006	⚠5307019900	0.5A 250V, UL [J, U, C, GE]
F005, F006	⚠5041138000	T500mA 250V, Mini [E, UK, A]
	IC's	
U006	5220036200	LC4966
U008	5220406700	RC4558P
	TRANSISTORS	
Q001	5145150000	2SA1015GR
Q002	5145151000	2SC1815GR
Q003	5145087000	2SD313E
Q004	5145129000	2SB507E
Q005, Q006	5145151000	2SC1815GR
Q007	5145151000	2SC1815GR
Q008, Q009	5230014000	2SA1020Y
Q010	5230014000	2SA1020Y
Q011, Q012	5145150000	2SA1015GR
Q013, Q014	5145150000	2SA1015GR (T-2640/MS)
Q015	5145150000	2SA1015GR
	DIODES	
D001, D003	⚠5228005900	KBPC602
D002, D004	⚠5228005000	W02
D006	5224013200	DS135D
D007, D008	5224013200	DS135D
D009	5224013200	DS135D
D010, D011	5224015000	1SS133
D012	5224015000	1SS133
D013, D014	5224013200	DS135D
D015	5224013200	DS135D
D016, D017	5224015000	1SS133
D018, D019	5224015000	1SS133 (T-2640/MS)
D020, D021	5224015000	1SS133
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance and 1/4 watt unless otherwise noted.	
R001, R002	5240033020	100kΩ
R003	⚠5183554000	10Ω Nonflammable
R006	5240029820	4.7kΩ (T-2640/MS)
	5240030420	8.2kΩ (T-2620/MS)
R007	5240028220	1kΩ
R008	5240033420	150kΩ
R009	5240031220	18kΩ
R010	5240032420	56kΩ
R011	5240027020	330Ω
R012	5240028220	1kΩ

REF. NO.	PARTS NO.	DESCRIPTION
R013	5240026620	220Ω
R014	5240026820	270Ω
R015	5240029820	4.7kΩ
R016	5240025820	100Ω
R017, R018	5240021020	1Ω
R019	5240023420	10Ω
R020	5240028220	1kΩ
R021	5240030620	10kΩ
R022	5240032220	47kΩ
R023	5240033020	100kΩ
R024	5240032220	47kΩ
R025	5240033020	100kΩ
R026	5240032220	47kΩ
R027	5240033020	100kΩ
R028	5240029020	2.2kΩ
R029	5240030620	10kΩ
R030	5240029020	2.2kΩ
R031	5240030620	10kΩ
R032	5240029020	2.2kΩ
R033	5240030620	10kΩ
R034	5240031420	22kΩ
R035	5240032220	47kΩ
R038	5240031620	27kΩ
R039	5240034520	430kΩ
R040	5240029420	3.3kΩ
R041	5240031020	15kΩ
R042	5240031820	33kΩ
R043	5240032220	47kΩ
R044	5240031020	15kΩ (T-2640/MS)
R045	5240031820	33kΩ (T-2640/MS)
R046	5240032220	47kΩ
R047	5240031020	15kΩ (T-2640/MS)
R048	5240031820	33kΩ (T-2640/MS)
R049	5240032220	47kΩ
R050	5240031020	15kΩ
R051	5240031820	33kΩ
R052	5240032220	47kΩ
	CAPACITORS	
C001, C002	5263164500	Metalized 0.047μF 250V 10%
C003, C004	5263164500	Metalized 0.047μF 250V 10%
C005	5263164500	Metalized 0.047μF 250V 10%
C006	⚠5173084000	Elec. 1000μF 50V
C007	⚠5173094000	Elec. 3300μF 25V
C008	⚠5173083000	Elec. 1000μF 35V
C009, C010	⚠5173089000	Elec. 2200μF 25V
C011	⚠5173089000	Elec. 2200μF 25V
C012	5173435000	Ceramic 0.047μF 50V
C013	5260165252	Elec. 47μF 25V
C014	5173433000	Ceramic 0.01μF 50V
C015	5260165252	Elec. 47μF 25V
C016, C017	5260162750	Elec. 10μF 35V
C018	5173055800	Elec. 220μF 25V
C019	5260166152	Elec. 100μF 25V
C020, C021	5260165252	Elec. 47μF 25V
C022, C023	5173433000	Ceramic 0.01μF 50V
C024	⚠5173084000	Elec. 1000μF 50V
C026	5172212000	Ceramic 100pF 50V 10%
C027	5260162550	Elec. 10μF 16V
C028	5260162050	Elec. 4.7μF 35V
C029	5260162550	Elec. 10μF 16V
C030	5260162050	Elec. 4.7μF 35V
C031	5260165252	Elec. 47μF 25V
C032	5172216000	Ceramic 220pF 50V 10%

Parts marked with * require longer delivery time.

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.
[A]: AUSTRALIA [J]: JAPAN

REF. NO.	PARTS NO.	DESCRIPTION
C033	5173435000	Ceramic 0.047μF 50V
C034, C035	5260166052	Elec. 100μF 16V
C036, C037	5173435000	Ceramic 0.047μF 50V
C038	5173435000	Ceramic 0.047μF 50V
C039	5173433000	Ceramic 0.01μF 50V
C040, C041	5260160750	Elec. 1μF 50V
C042	5260160750	Elec. 1μF 50V
C043, C044	5173433000	Ceramic 0.01μF 50V
C045, C046	5260160750	Elec. 1μF 50V
	COILS	
L001	5286019400	Choke, 47=H
L002	6046628000	Choke; SN-8S-400
L003, L004	5286021000	Choke, 1000=H
L005	5286021000	Choke, 1000=H
	CONNECTOR PLUGS	
P001	5336126800	8P (WHT)
P002	5336126600	6P (WHT)
P003	5336126500	5P (WHT)
P004	5336135300	3P (RED)
P005	5336126200	2P (WHT)
P006	5336126300	3P (WHT)
P007	5336126200	2P (WHT)
P008	5336126500	5P (WHT)
P009	5336126400	4P (WHT)
P010	5336137600	6P (BLK)
P011	5336145700	7P (YEL)
P012	5336126800	8P (WHT) (T-2640/MS)
	5336126400	4P (WHT) (T-2620/MS)
	MISCELLANEOUS	
U007	5292203400	Bias OSC Module 500KHz
	5041237000	Holder, Fuse; 1P [J, U, C, GE]
	5332014200	Holder, Fuse; 1P [E, UK, A]
	5347002900	Timer; TM3L
	5788101800	UL Tube; AWG18, ϕ1
	5355101700	Wire Assy, Power Supply
W001, W002	5181763000	Jumper, P = 10
W003	5181761000	Jumper, P = 5
W004	5181763000	Jumper, P = 10
W005	5181763000	Jumper, P = 10
W006, W007	5181763000	Jumper, P = 10
W008	5181761000	Jumper, P = 5
W009	5181763000	Jumper, P = 10
W010, W011	5181761000	Jumper, P = 5
W012, W013	5181763000	Jumper, P = 10
W014	5181763000	Jumper, P = 10
W015, W016	5181761000	Jumper, P = 5
W017, W018	5181763000	Jumper, P = 10
W019	5181763000	Jumper, P = 10
W020, W021	5181761000	Jumper, P = 5
W022	5181761000	Jumper, P = 5
W023	5181763000	Jumper, P = 10
W024	5181761000	Jumper, P = 5
W025, W026	5181763000	Jumper, P = 10
W027, W028	5181763000	Jumper, P = 10
W029, W030	5181763000	Jumper, P = 10
W031	5181763000	Jumper, P = 10
W032	5181761000	Jumper, P = 5
W033	5181762000	Jumper, P = 7.5

MOTHER PCB ASSY (M) (T-2640/MS, T-2620/MS)

REF. NO.	PARTS NO.	DESCRIPTION	
	*5200149701	PCB Assy (T-2640/MS)	
	*5200149711	PCB Assy (T-2620/MS)	
	*5210149701	PCB	
	CAPACITORS		
C001	5173433000	Ceramic 0.01μF 50V	
C002	5260162550	Elec. 10μF 16V	
C003	5173433000	Ceramic 0.01μF 50V	
C004	5260162550	Elec. 10μF 16V	
C005	5173056800	Elec. 220μF 35V	
	COILS		
L001, L002	5286019400	Coil, Choke; 47=H	
	CONNECTOR PLUGS		
P101	5122357000	5P	
P102	5122359000	7P	
P103	5122355000	3P	
P104	5122362000	10P	
P106, P107	5122355000	3P	
P001	5336126600	6P (WHT)	
P002	5336126200	2P (WHT)	
P003	5336126600	6P (WHT)	(T-2640/MS)
P004	5336126200	2P (WHT)	(T-2640/MS)
P005	5336126600	6P (WHT)	
P006	5336126200	2P (WHT)	
P007	5336126600	6P (WHT)	(T-2640/MS)
P008	5336126200	2P (WHT)	(T-2640/MS)
P009	5336126400	4P (WHT)	
P010	5336126700	7P (WHT)	
P011	5336126400	4P (WHT)	(T-2640/MS)
P012	5336126500	5P (WHT)	(T-2640/MS)
P013	5336126400	4P (WHT)	
P014	5336126500	5P (WHT)	
P015	5336126400	4P (WHT)	(T-2640/MS)
P016	5336126500	5P (WHT)	(T-2640/MS)
P017	5336126700	7P (WHT)	
P018	5336126500	5P (WHT)	

Parts marked with * require longer delivery time.

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.
[A]: AUSTRALIA [J]: JAPAN

REPRO AMPL. PCB ASSY (T-2640/MS, T-2620/MS)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200149301	PCB Assy (T-2640/MS)
	*5200149311	PCB Assy (T-2620/MS)
	*5210149301	PCB
	IC	
U001	5220419600	NJM5532D
	TRANSISTORS	
Q001, Q002	5145103000	FET, 2SK68AM
Q003	5145103000	FET, 2SK68AM
Q004	5230779520	2SC1815GR
Q005, Q006	5145103000	FET, 2SK68AM
Q007, Q008	5145103000	FET, 2SK68AM
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance 1/4 watt unless othersise noted.	
R001	5240032420	56kΩ
R002	5240028220	1kΩ
R003	5240030020	5.6kΩ
R004	5240026620	220Ω
R005	5240033020	100kΩ
R006	⚠5183578000	100Ω Nonflammable
R007	⚠5183574000	68Ω Nonflammable
R008, R009	5240029820	4.7kΩ
R010	5240025820	100Ω
R012	5240029820	4.7kΩ
R013	5240030620	10kΩ
R014	5240029020	2.2kΩ
R015	5240026420	180Ω
R016	5240034220	330kΩ
R018	5240028220	1kΩ
R020	5240027420	470Ω
R022	5240030620	10kΩ
R023	5240031420	22kΩ
R024	5240029820	4.7kΩ
R025	5240029020	2.2kΩ
R026	5240033020	100kΩ
R027, R028	5240029820	4.7kΩ
R029	5240025820	100Ω
R030	5240029520	3.6kΩ
R031	5240027420	470Ω (T-2640/MS)
	5240028220	1kΩ (T-2620/MS)
R032	5240031420	22kΩ
R033	5240033020	100kΩ
R034	5240025820	100Ω
R035, R036	⚠5183566000	33Ω Nonflammable
R037, R038	5240177800	10Ω
	CAPACITORS	
C001	5054740000	Dip. Mica 10pF 50V 10%
C002	5172208000	Ceramic 47pF 50V 10%
C003	5260166052	Elec. 100μF 16V
C004	5260162050	Elec. 4.7μF 35V
C005	5263106020	Poly. 180pF 10V 5%
C006	5260163452	Elec. 22μF 25V
C007	5173433000	Ceramic 0.01μF 50V
C008	5260163452	Elec. 22μF 25V
C009	5173433000	Ceramic 0.01μF 50V
C010	5263106620	Poly. 330pF 100V 5%
C011	5260161150	Elec. 2.2μF 50V
C012	5172208000	Ceramic 47pF 50V 5%
C013	5263166623	Metalized 0.0082μF 50V 5%
C015	5260066550	Elec. 4.7μF 35V
C016	5172208000	Ceramic 47pF 50V 10%

REF. NO.	PARTS NO.	DESCRIPTION
C017	5263106620	Poly. 330μF 100V 5%
C018	5260161150	Elec. 2.2μF 50V
C019	5172200000	Ceramic 10pF 50V 1%
C020	5260162050	Elec. 4.7μF 35V
C021	5263107020	Poly. 470pF 100V 5%
C022, C023	5260165252	Elec. 47μF 25V
C024	5263106420	Poly. 270pF 100V 5% (T-2640/MS)
	5263105420	Poly. 100pF 100V 5% (T-2620/MS)
	VARIABLE RESISTORS	
R017, R019	5150152000	Semi-fixed, 2kΩ (B)
R021	5150156000	Semi-fixed, 50kΩ (B)
	COIL	
L001	5286023200	Bias Trap, 220=H
	CONNECTORS	
J103	5122374000	Socket, 3P
J104	5122381000	Socket, 10P
P105	5336128300	Plug, 3P
	MISCELLANEOUS	
	5143128000	Thermistor, S5C34
	5788101800	UL Tube, AWG18 φ1
W001, W002	5181761000	Jumper, P = 5
W003, W004	5181761000	Jumper, P = 5
W005, W006	5181761000	Jumper, P = 5
W007, W008	5181761000	Jumper, P = 5
W009, W010	5181761000	Jumper, P = 5
W011, W012	5181761000	Jumper, P = 5
W013, W014	5181761000	Jumper, P = 5
W015, W016	5181761000	Jumper, P = 5
W017, W018	5181761000	Jumper, P = 5
W019, W020	5181761000	Jumper, P = 5

Parts marked with * require longer delivery time.

POWER SUPPLY PCB ASSY (T-2640/2S, T-2620/2S)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150021	PCB Assy (T-2640/2S) [J, U, C, GE]
	*5200150031	PCB Assy (T-2640/2S) [E, UK, A]
	*5200150061	PCB Assy (T-2620/2S) [J, U, C, GE]
	*5200150071	PCB Assy (T-2620/2S) [E, UK, A]
	*5210150001	PCB
FUSES		
F001	⚠5307019900	0.5A 250V, UL [J, U, C, GE]
	⚠5041138000	T500mA 250V, Mini [E, UK, A]
F002	⚠5307021000	2A 250V, UL [J, U, C, GE]
	⚠5142189000	T2A 250V, Mini [E, UK, A]
F003, F004	⚠5307021200	2.5A 250V, UL [J, U, C, GE]
	⚠5142190000	T2.5A 250V, Mini [E, UK, A]
F005, F006	⚠5307019900	0.5A 250V, UL [J, U, C, GE]
	⚠5041138000	T500mA 250V, Mini [E, UK, A]
IC		
U006	5220036200	LC4966
TRANSISTORS		
Q005, Q006	5145151000	2SC1815GR
Q007	5145151000	2SC1815GR
Q011, Q012	5145150000	2SA1015GR
Q013, Q014	5145150000	2SA1015GR (T-2640/2S)
Q015	5145150000	2SA1015GR
DIODES		
D001, D003	⚠5228005900	KBPC602
D002, D004	⚠5228005000	W02
D006	5224013200	DS135D
D007, D008	5224013200	DS135D
D009	5224013200	DS135D
D010	5224015000	1SS133
D016, D017	5224015000	1SS133
D018, D019	5224015000	1SS133 (T-2640/2S)
D020, D021	5224015000	1SS133
CARBON RESISTORS		
All resistors are rated ±5% tolerance and 1/4 watt unless otherwise noted.		
R001, R002	5240033020	100kΩ
R003	⚠5183554000	10Ω Nonflammable
R021	5240030620	10kΩ
R022	5240032220	47kΩ
R023	5240033020	100kΩ
R024	5240032220	47kΩ
R025	5240033020	100kΩ
R026	5240032220	47kΩ
R027	5240033020	100kΩ
R034	5240031420	22kΩ
R035	5240032220	47kΩ
R038	5240031620	27kΩ
R039	5240034520	430kΩ
R040	5240029420	3.3kΩ
R041	5240031020	15kΩ
R042	5240031820	33kΩ
R043	5240032220	47kΩ
R044	5240031020	15kΩ (T-2640/2S)
R045	5240031820	33kΩ (T-2640/2S)
R046	5240032220	47kΩ
R047	5240031020	15kΩ (T-2640/2S)
R048	5240031820	33kΩ (T-2640/2S)
R049	5240032220	47kΩ
R050	5240031020	15kΩ
R051	5240031820	33kΩ
R052	5240032220	47kΩ
CAPACITORS		
C001, C002	5263164500	Metalized 0.047μF 250V 10%
C003, C004	5263164500	Metalized 0.047μF 250V 10%
C005	5263164500	Metalized 0.047μF 250V 10%
C006	⚠5173084000	Elec. 1000μF 50V
C007	⚠5173094000	Elec. 3300μF 25V
C008	⚠5173083000	Elec. 1000μF 35V
C009, C010	⚠5173089000	Elec. 2200μF 25V
C011	⚠5173089000	Elec. 2200μF 25V
C012	5173435000	Ceramic 0.047μF 50V
C013	5260165252	Elec. 47μF 25V
C014	5173433000	Ceramic 0.01μF 50V
C015	5260165252	Elec. 47μF 25V
C016, C017	5260162750	Elec. 10μF 35V
C018	5173055800	Elec. 220μF 25V
C019	5260166152	Elec. 100μF 25V
C020, C021	5260165252	Elec. 47μF 25V
C022, C023	5173433000	Ceramic 0.01μF 50V
C024	⚠5173084000	Elec. 1000μF 50V
C036, C037	5173435000	Ceramic 0.047μF 50V
C038	5173435000	Ceramic 0.047μF 50V
C039	5173433000	Ceramic 0.01μF 50V
C040, C041	5260160750	Elec. 1μF 50V
C042	5260160750	Elec. 1μF 50V
C043, C044	5173433000	Ceramic 0.01μF 50V
C045, C046	5260160750	Elec. 1μF 50V
COILS		
L001	5286019400	Choke, 47=H
L002	6046628000	Choke; SN-8S-400
L003, L004	5286021000	Choke, 1000=H
L005	5286021000	Choke, 1000=H
CONNECTOR PLUGS		
P001	5336126800	8P (WHT)
P002	5336126600	6P (WHT)
P004	5336135300	3P (RED)
P008	5336126900	9P (WHT)
P009	5336126400	4P (WHT)
P010	5336137400	4P (BLK)
P011	5336145400	4P (YEL)
P012	5336126800	8P (WHT) (T-2640/2S)
	5336126400	4P (WHT) (T-2620/2S)
MISCELLANEOUS		
U007	5292203400	Bias OSC Module 500kHz
	5041237000	Holder, Fuse; 1P [J, U, C, GE]
	5332014200	Holder, Fuse; 1P [E, UK A]
	5347002900	FC Timer; TM3L
	5788101800	UL Tube; AWG18, ϕ1
	5355101700	Wire Assy, Power Supply
W001, W002	5181763000	Jumper, P = 10
W004	5181763000	Jumper, P = 10
W006, W007	5181763000	Jumper, P = 10
W010, W011	5181761000	Jumper, P = 5
W012, W013	5181763000	Jumper, P = 10

Parts marked with * require longer delivery time.

[U]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.
[A]: AUSTRALIA [J]: JAPAN

REF. NO.	PARTS NO.	DESCRIPTION
W014	5181763000	Jumper, P = 10
W015, W016	5181761000	Jumper, P = 5
W017, W018	5181763000	Jumper, P = 10
W019	5181763000	Jumper, P = 10
W020, W021	5181761000	Jumper, P = 5
W022	5181761000	Jumper, P = 5
W023	5181763000	Jumper, P = 10
W024	5181761000	Jumper, P = 5
W025, W026	5181763000	Jumper, P = 10
W027, W028	5181763000	Jumper, P = 10
W029, W030	5181763000	Jumper, P = 10
W031	5181763000	Jumper, P = 10
W032	5181761000	Jumper, P = 5
W033	5181762000	Jumper, P = 7.5

MOTHER PCB ASSY (S) (T-2640/2S, T-2620/2S)

REF. NO.	PARTS NO.	DESCRIPTION		
	*5200149801	PCB Assy (T-2640/2S)		
	*5200149811	PCB Assy (T-2620/2S)		
	*5210149801	PCB		
	CAPACITORS			
C001	5173433000	Ceramic	0.01μF	50V
C002	5260162550	Elec.	10μF	16V
C003	5173433000	Ceramic	0.01μF	50V
C004	5260162550	Elec.	10μF	16V
C005	5173056800	Elec.	220μF	35V
	COILS			
L001, L002	5286019400	Coil, Choke; 47=H		
	CONNECTOR PLUGS			
P101	5122357000	5P		
P102	5122359000	7P		
P106, P107	5122355000	3P		
P001	5336126400	4P (WHT)		
P002	5336126500	5P (WHT)		
P003	5336126400	4P (WHT)		(T-2640/2S)
P004	5336126500	5P (WHT)		
P005	5336126400	4P (WHT)		
P006	5336126500	5P (WHT)		
P007	5336126400	4P (WHT)		
P008	5336126500	5P (WHT)		
P009	5336126400	4P (WHT)		
P010	5336126400	4P (WHT)		
P011	5336126500	5P (WHT)		
P012	5336126600	6P (WHT)		
P013	5336126500	5P (WHT)		
P014	5336126600	6P (WHT)		
P015	5336126500	5P (WHT)		
P016	5336126600	6P (WHT)		
P017	5336126800	8P (WHT)		
P018	5336126600	6P (WHT)		
P019	5336126500	5P (WHT)		

REC AMPL. PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION		
	*5200149401	PCB Assy (T-2640/MS, 2S)		
	*5200149411	PCB Assy (T-2620/MS, 2S)		
	*5210149401	PCB		
	TRANSISTORS			
Q001, Q002	5230775000	2SC2878B		
Q003	5230775000	2SC2878B		
Q004, Q005	5145150000	2SA1015GR		
Q006, Q007	5145151000	2SC1815GR		
Q008	5145151000	2SC1815GR		
Q009	5145150000	2SA1015GR		
Q010, Q011	5145151000	2SC1815GR		
Q012	5145150000	2SA1015GR		
Q013, Q014	5230775000	2SC2878B		
	CARBON RESISTORS All resistors are rated ±5% tolerance and 1/4 watt unless otherwise noted.			
R001, R002	5240030620	10kΩ		
R003, R004	5240030620	10kΩ		
R005	⚠5183566000	33Ω		Nonflammable
R008	5240030620	10kΩ		
R009	5240029620	3.9kΩ		
R010	5240030020	5.6kΩ		(T-2640/MS, 2S)
R011	5240029420	3.3kΩ		
	5240031020	15kΩ		(T-2620/MS, 2S)
R012	5240030620	10kΩ		
R013	5240033020	100kΩ		
R014	5240030320	7.5kΩ		
R015	5240027920	750Ω		
R016	5240029020	2.2kΩ		
R017	5240023820	15Ω		
R018	5240025820	100Ω		
R019	5240030320	7.5kΩ		
R020	5240027920	750Ω		
R021	5240029020	2.2kΩ		
R022	5240028320	15Ω		
R023	5240025820	100Ω		
R024	5240030020	5.6kΩ		
R025	5240029820	4.7kΩ		
R026	5240033020	100kΩ		
R027, R028	5240025620	100Ω		
R029, R030	5240024220	22Ω		
R031	5240033020	100kΩ		
R032	5240028220	1kΩ		
R033	⚠5183566000	33Ω		Nonflammable
R037, R038	5240030620	10kΩ		
R039	5240021020	1Ω		
R040	5240033020	100kΩ		
R040	5240033020	100kΩ		
R041	5240029420	3.3kΩ		
R042	5240033020	100kΩ		
R043	5240029420	3.3kΩ		(T-2620/MS, 2S)
	CAPACITORS			
C001	5263167723	Metalized	0.068μF	50V 5%
C002	5263106020	Poly.	180pF	100V 5% (T-2640/MS, 2S)
C003	5263107420	Poly.	680pF	100V 5%
C004	5260162050	Elec.	4.7μF	35V
C005	5172200000	Ceramic	10pF	50V 1%
C006	5172210000	Ceramic	68pF	50V 10%
C007	5263106620	Poly.	330pF	100V 5%
C008	5172218000	Ceramic	330pF	50V 10%
C009	5260165252	Elec.	47μF	25V

Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION
C010	5263106620	Poly. 330pF 100V 5%
C011	5172218000	Ceramic 330pF 50V 10%
C012	5054740000	Dip. Mica. 10pF 50V 10%
C013	5260066550	Elec. 4.7μF 35V
C014	5260165252	Elec. 47μF 25V
C015	5263165523	Metalized 0.001μF 50V 5%
C016	5263107020	Poly. 470pF 100V 5%
C017	5263107620	Poly. 820pF 100V 5%
C018	5263165523	Metalized 0.001μF 50V 5%
C020	5263168323	Metalized 0.22μF 50V 5%
C021, C022	5267206200	Trimmer 100pF
C023	5263105420	Poly. 100pF (T-2620/MS, 2S)
	VARIABLE RESISTORS	
R006, R007	5150157000	Semi-fixed, 100kΩ (B)
R034	5150152000	Semi-fixed, 2kΩ (B)
R035	5150150000	Semi-fixed, 500Ω (B)
	COILS	
L001	5286011000	Choke, 2.4mH
L002	5286023200	Trap, 220=H
	CONNECTORS	
J101	5122376000	Socket, 5P
J102	5122378000	Socket, 7P
	MISCELLANEOUS	
U001	5292204200	Bias Ampl. Module 500kHz (T-2620/MS, 2S)
U001	5292203501	Bias Ampl. Module 500kHz (T-2640/MS, 2S)
S001	5300909200	Switch, Slide; 2-2N (SSB022)
	5788101800	UL Tube, AWG18; ϕ1
TP	5544750000	Combination Pin (2 Used)
	5181761000	Jumper, p = 5
	5181763000	Jumper, p = 10
	5181762000	Jumper, p = 7.5

CONNECTOR PCB ASSY (M) (T-2640/MS, T-2620/MS)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150200	PCB Assy (T-2640/MS)
	*5200150210	PCB Assy (T-2620/MS)
	*5210150200	PCB
	CARBON RESISTORS	
R001, R002	5240033020	100kΩ 1/4W 5%
R003, R004	5240033020	100kΩ 1/4W 5% (T-2640/MS)
	CONNECTOR PLUGS	
P001, P002	5336126800	8P (WHT) (T-2640/MS)
	5336126400	4P (WHT) (T-2620/MS)
P003	5336126700	7P
P004	5336126800	8P (WHT) (T-2640/MS)
	5336126400	4P (WHT) (T-2640/MS)
P005	5336126200	2P (WHT)
	MISCELLANEOUS	
	5800484500	Bracket, Connector
	5300910600	Switch, Slide; 8-2
	5780022604	Screw, Bind M2.6 x 4 (BLK Ni)
J001	5334040800	Socket, Connector; 16P
P006	5334040900	Plug, Connector; 16P
	5317002800	Stopper, 16000-STB
	5780022606	Screw, Bind M2.6 x 6 (BLK Ni)

CONNECTOR PCB ASSY (S) (T-2640/2S, T-2620/2S)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150300	PCB Assy (T-2640/2S)
	*5200150310	PCB Assy (T-2620/2S)
	*5210150300	PCB
	CONNECTOR PLUGS	
P002	5336126800	8P (WHT) (T-2640/2S)
	5336126400	4P (WHT) (T-2620/2S)
P003	5336126400	4P (WHT)
	MISCELLANEOUS	
	5800484500	Bracket, Connector
J001	5334040800	Socket, Connector; 16P
P001	5334040900	Plug, Connector; 16P
	5317002800	Stopper, 16000-STB
	5780022606	Screw, Bind M2.6 x 6 (BLK Ni)

Parts marked with * require longer delivery time.

OPERATION SWITCH PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150601	PCB Assy
	*5210150601	PCB
	TRANSISTORS	
Q001	5145150000	2SA1015GR
Q002	5145151000	2SC1815GR
	DIODES	
D001, D002	5224015000	1SS133
D003, D004	5224015000	1SS133
D005, D006	5224015000	1SS133
D007, D008	5224015000	1SS133
D009	5224542101	Zener, RD9.1EB2 FR
	CARBON RESISTORS All resistors are rated ±5% tolerance and 1/4 watt.	
R001	5240029020	2.2kΩ
R002	5240031620	27kΩ
R003	5240030820	12kΩ
R004	5240027820	680Ω
R005	5240027420	470Ω
	MISCELLANEOUS	
P001	6052380010	Plug, Connector; 10P
W001	5181761000	Jumper, P = 5
	5181761000	Jumper, P = 5

CH SELECTOR PCB ASSY (T-2640/MS, T-2640/2S)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150401	PCB Assy (T-2640/MS)
	*5200150411	PCB Assy (T-2640/2S)
	*5210150401	PCB
	CARBON RESISTORS All resistors are rated ±5% tolerance and 1/4 watt.	
R001, R002	5240021020	1Ω
R003, R004	5240021020	1Ω
R005, R006	5240021020	1Ω (T-2640/2S)
R007, R008	5240021020	1Ω (T-2640/2S)
	CONNECTOR PLUGS	
P001	5336128500	5P (WHT) (T-2640/MS)
	5336128900	9P (WHT) (T-2640/2S)
P002, P003	5336128400	4P (WHT) (T-2640/MS)
	5336128700	7P (WHT) (T-2640/2S)
P004	5336128800	8P (WHT) (T-2640/MS)
	5336129200	12P (WHT) (T-2640/2S)
P005, P006	5336126300	3P (WHT)
P007, P008	5336126300	3P (WHT)
P009, P010	5336126300	3P (WHT) (T-2620/2S)
P011, P012	5336126300	3P (WHT) (T-2620/2S)
P013	5336128200	2P (WHT)
	MISCELLANEOUS	
S001	5300037000	Switch, Push; 4-gang
	5317002100	Pin, DH Check; 1ps-1136

METER AMPL. PCB ASSY (T-2640/MS, T-2620/MS)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200149900	PCB Assy (T-2640/MS)
	*5200149910	PCB Assy (T-2620/MS)
	*5210149900	PCB
	IC's	
U001	5220406700	RC4558P
U002	5220406700	RC4558P (T-2640/MS)
	DIODES	
D001, D002	5224015400	1K60
D003, D004	5224015400	1K60 (T-2640/MS)
D005, D006	5224015400	1K60
D007, D008	5224015400	1K60 (T-2640/MS)
	CARBON RESISTORS All resistors are rated ±5% tolerance 1/4 watt unless otherwise noted.	
R001, R002	5240032220	47kΩ
R003, R004	5240032220	47kΩ (T-2640/MS)
R009, R010	5240031220	18kΩ
R011, R012	5240031220	18kΩ (T-2640/MS)
R013, R014	5240028220	1kΩ
R015, R016	5240028220	1kΩ (T-2640/MS)
R017, R018	5240030620	10kΩ
R019, R020	5240030620	10kΩ (T-2640/MS)
R021, R022	5240030620	10kΩ
R023, R024	5240030620	10kΩ (T-2640/MS)
R025, R026	5240029420	3.3kΩ
R027, R028	5240029420	3.3kΩ (T-2640/MS)
R029, R030	⚠5183578000	100Ω Nonflammable
	CAPACITORS	
C001, C002	5172200000	Ceramic 10pF 50V 1%
C003, C004	5172200000	Ceramic 10pF 50V 1% (T-2640/MS)
C005, C006	5260160550	Elec. 0.47μF 50V
C007, C008	5260160550	Elec. 0.47μF 50V (T-2640/MS)
C009, C010	5260162550	Elec. 10μF 16V
C011, C012	5260162550	Elec. 10μF 16V (T-2640/MS)
C013, C014	5260165252	Elec. 47μF 25V
	VARIABLE RESISTORS	
R005, R006	5280092300	Semi-fixed, 100kΩ (B)
R007, R008	5280092300	Semi-fixed, 100kΩ (B) (T-2640/MS)
	MISCELLANEOUS	
M001, M002	5296003300	Meter, VU
M003, M004	5296003300	Meter, VU (T-2640/MS)
	5355101600	Wire, Meter (T-2640/MS)
	5355110500	Wire, Meter (T-2620/MS)
W001, W002	5181761000	Jumper, p = 5
W003, W004	5181761000	Jumper, p = 5 (T-2640/MS)
W005	5181761000	Jumper, p = 5
W006	5181761000	Jumper, p = 5 (T-2640/MS)
W007, W008	5181763000	Jumper, p = 10

Parts marked with * require longer delivery time.

CH SELECTOR PCB ASSY (T-2620/MS, T-2620/2S)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200163500	PCB Assy (T-2620/MS)
	*5200163510	PCB Assy (T-2620/2S)
	*5210163500	PCB
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance and 1/4 watt.	
R001, R003	5240021020	1Ω
R002, R004	5240021020	1Ω (T-2620/2S)
	CONNECTOR PLUGS	
P001	5336128500	5P (WHT) (T-2620/MS)
	5336128900	9P (WHT) (T-2620/2S)
P002	5336128800	8P (WHT) (T-2620/MS)
P003	5336128200	12P (WHT) (T-2620/2S)
P004	5336126300	3P (WHT) (T-2620/MS)
P005	5336126300	3P (WHT)
P006	5336126300	3P (WHT) (T-2620/2S)
P007	5336126300	3P (WHT)
	MISCELLANEOUS	
S001	5300039800	Switch, Push; 2-gang
	5317002100	Pin, DH Check; 1ps-1136

CONTROL SWITCH PCB ASSY (T-2640/MS, T-2620/MS)

REF. NO.	PARTS NO.	DESCRIPTION
	*5200150500	PCB Assy
	*5210150500	PCB
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance 1/4 watt.	
R001	5240030620	10kΩ
R002	5240031620	27kΩ
R003	5240030620	10kΩ
R004	5240031620	27kΩ
	CAPACITORS	
C001, C002	5260162050	Elec. 4.7μF 35V
	MISCELLANEOUS	
S001	5300037100	Switch, Push; 4-gang
P001	5336129000	Plug, Connector; 10P

MOTOR DRIVE PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5761106000	PCB Assy
	*5761106100	PCB
	IC'S	
IC1	5761106200	TA-7245P
IC2, IC3	5761106300	M51712P
IC4	6048650003	NJM2903D
IC5	5220426600	μPC1043C
	TRANSISTORS	
TR1, TR2	5230770300	2SC1815Y
TR3	5230770300	2SC1815Y
	DIODES	
D1	5143100000	1S1588
ZD1	5224552800	Zener 05Z5.1
ZD2	5761118800	Zener HZ3B2
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance 1/4 watt unless otherwise noted.	
R001	5241148200	1kΩ Metalized
R002	5181476000	560Ω
R003	5181498000	4.7kΩ
R004	5241149200	2.7kΩ Metalized
R005	5181514000	22kΩ
R006	5181476000	560Ω
R007, R008	5181418000	2.2Ω
R009	5181418000	2.2Ω
R010	5761106500	2.2Ω Metalized
R011, R012	5181434000	10Ω
R013	5181484000	1.2kΩ
R014	5181498000	4.7kΩ
R015	5181482000	1kΩ
R016	5181498000	4.7kΩ
R017	5181514000	22kΩ
R018	5181498000	4.7kΩ
R019	5241148200	1kΩ Metalized
R020	5241149200	2.7kΩ
R022, R023	5181434000	10Ω
R024	5181484000	1.2kΩ
R025	5181506000	10kΩ
R026	5181518000	33kΩ
R027	5181514000	22kΩ
R028	5181506000	10kΩ
R029	5181510000	15kΩ
R031	5241154400	390kΩ Metalized
R032	5181554000	1MΩ
R033	5241153000	100kΩ Metalized
R034	5181530000	100kΩ
R035	5181482000	1kΩ
R036	5241150800	12kΩ Metalized
R037	5241149800	4.7kΩ Metalized
R038	5181482000	1kΩ
	CAPACITORS	
C008, C009	5171878000	Mylar(Small) 0.1μF 50V
C010	5171878000	Mylar(Small) 0.1μF 50V
C011	5260213750	Elec.(SRA) 33μF 16V
C012	5267010400	Ceramic 0.1μF 50V
C013	5260166152	Elec.(SM) 100μF 25V

Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	
C014	5171878000	Mylar(Small) 0.1μF	50V
C016	5172224000	Ceramic 0.001μF	50V
C017, C018	5171878000	Mylar(Small) 0.1μF	50V
C019	5171878000	Mylar(Small) 0.1μF	50V
C020	5260213750	Elec.(SRA) 33μF	16V
C021	5267010400	Ceramic 0.1μF	50V
C022	5260166152	Elec.(SM) 100μF	25V
C023	5171878000	Mylar(Small) 0.1μF	50V
C024	5263052920	Mylar 0.01μF	50V
C025	5263050520	Poly. 0.001μF	50V
C026	5260166152	Elec.(SM) 100μF	25V
C027	5263103720	Poly. 0.022μF	50V
C028	5260162550	Elec. 10μF	16V
C029	5171872000	Mylar(Small) 0.047μF	50V
C030	5260210650	Elec.(SRA) 0.22μF	50V
C031, C032	5260160550	Elec. 0.47μF	50V
C033	5263052920	Mylar 0.01μF	50V
C034	5263100520	Poly. 0.001μF	50V
C035, C036	5260165150	Elec. 47μF	16V
C037	5260165150	Elec. 47μF	16V
C038, C039	5171878000	Mylar(Small) 0.1μF	50V
C040	5260166152	Elec.(SM) 100μF	25V
C041	5172224000	Ceramic 0.001μF	50V
VARIABLE RESISTORS			
RV1	5053921000	Semi-fixed, 4.7kΩ	
RV2	5053917000	Semi-fixed, 1kΩ	
RV3	5053921000	Semi-fixed, 4.7kΩ	
CONNECTORS			
	5122145000	2P	
	5761106600	Micro, 2P	
	5761106700	Micro, 3P	
	5761106800	Micro, 8P	
	5761106900	Micro, 11P	
MISCELLANEOUS			
TH2	5761106400	Thermistor, SDT35	
	5181762000	Jumper, P = 7.5	
	5181763000	Jumper, P = 10	
	5181764000	Jumper, P = 12.5	
	5181765000	Jumper, P = 15	

CONTROL PCB ASSY

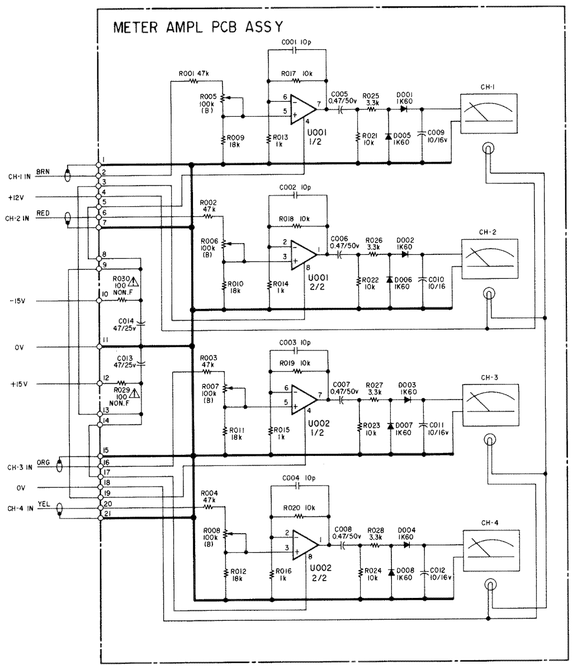
REF. NO.	PARTS NO.	DESCRIPTION
	*5761107000	PCB Assy
	*5761107100	PCB
IC'S		
IC1	5761107200	M54526P
IC2, IC3	5220016100	HD14013BP
IC4, IC5	5220019800	HD14584BP
TRANSISTORS		
TR1	5761118900	2SB596Y
TR2, TR3	5761107400	2SD1153
TR4, TR5	5230012700	2SA1015Y
DIODES		
D001, D002	5143100000	1S1588
D003, D004	5143100000	1S1588
D005, D006	5143100000	1S1588
D007, D008	5143100000	1S1588
D009, D010	5143100000	1S1588
D011, D012	5143100000	1S1588
D013, D014	5143100000	1S1588
D015, D016	5143100000	1S1588
D017, D018	5761107500	S5277B
D019	5761107500	S5277B
D020, D021	5143100000	1S1588
D022, D023	5143100000	1S1588
D024	5143100000	1S1588
CARBON RESISTORS		
All resistors are rated ±5% tolerance 1/4 watt unless otherwise noted.		
R001	5181506000	10kΩ
R002	5181514000	22kΩ
R003, R004	5181506000	10kΩ
R005	5181514000	22kΩ
R006, R007	5181506000	10kΩ
R008	5181530000	100kΩ
R009	5181506000	10kΩ
R010	5181514000	22kΩ
R011, R012	5181506000	10kΩ
R013	5181530000	100kΩ
R014	5181514000	22kΩ
R015	5181538000	220kΩ
R016	5181506000	10kΩ
R017	5181538000	220kΩ
R018	5181506000	10kΩ
R019	5181530000	100kΩ
R020	5181506000	10kΩ
R021	5181538000	220kΩ
R022	5181506000	10kΩ
R023	5181530000	100kΩ
R024, R025	5181506000	10kΩ
R026, R027	5181510000	15kΩ
R028, R029	5181506000	10kΩ
R030, R031	5181514000	22kΩ
R032	5181498000	4.7kΩ
R033	5181506000	10kΩ
R034	5181482000	1kΩ
R035	5181530000	100kΩ
R036, R037	5181530000	100kΩ
R038, R039	5181506000	10kΩ

Parts marked with * require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION		
R040	5181482000	1kΩ		
R041, R042	5181530000	100kΩ		
R043	5181530000	100kΩ		
R044, R045	5181506000	10kΩ		
	CAPACITORS			
C001	5260166150	Elec.	100μF	25V
C002, C003	5263055320	Mylar	0.1μF	
C004	5260160750	Elec.	1μF	50V
C005	5263055320	Mylar	0.1μF	
C006, C007	5260160750	Elec.	1μF	50V
C008	5260160750	Elec.	1μF	50V
C009	5260162550	Elec.	10μF	16V
C010	5260160550	Elec.	0.47μF	50V
C011	5260162550	Elec.	10μF	16V
C012	5263055320	Mylar	0.1μF	
C013	5260160750	Elec.	1μF	50V
C014, C015	5260162550	Elec.	10μF	16V
C016, C017	5260160750	Elec.	1μF	50V
C018, C019	5263055320	Mylar	0.1μF	
C020	5260162550	Elec.	10μF	16V
C021	5172224000	Ceramic	0.001μF	50V
	CONNECTORS			
	5761107600	Micro, 8P; F 5267		
	5761107700	Micro, 4P; F 5267-04A		
	5122147000	4P; B 5046-04A		
	5122148000	5P; C 5046-05A		
	5122150000	7P; A 5046-07A		
	5122151000	8P; D 5046-08A		
	MISCELLANEOUS			
	5181762000	Jumper, P = 7.5		
	5181763000	Jumper, P = 10		
	5181764000	Jumper, P = 12.5		
	5181765000	Jumper, P = 15		
	5181766000	Jumper, P = 17.5		
	5181767000	Jumper, P = 20		

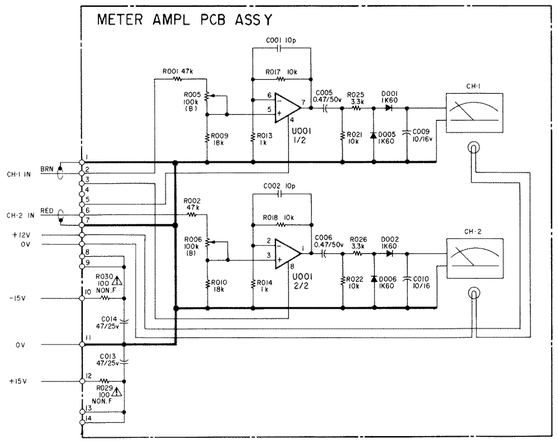
Parts marked with * require longer delivery time.

METER AMPL PCB ASSY (For T-2640/MS)



U001, U002-----RC4558P

METER AMPL PCB ASSY (For T-2620/MS)



U001----NJM4558

TASCAM T-2640/MS•2S
T-2620/MS•2S

2nd Issue; April, 1985

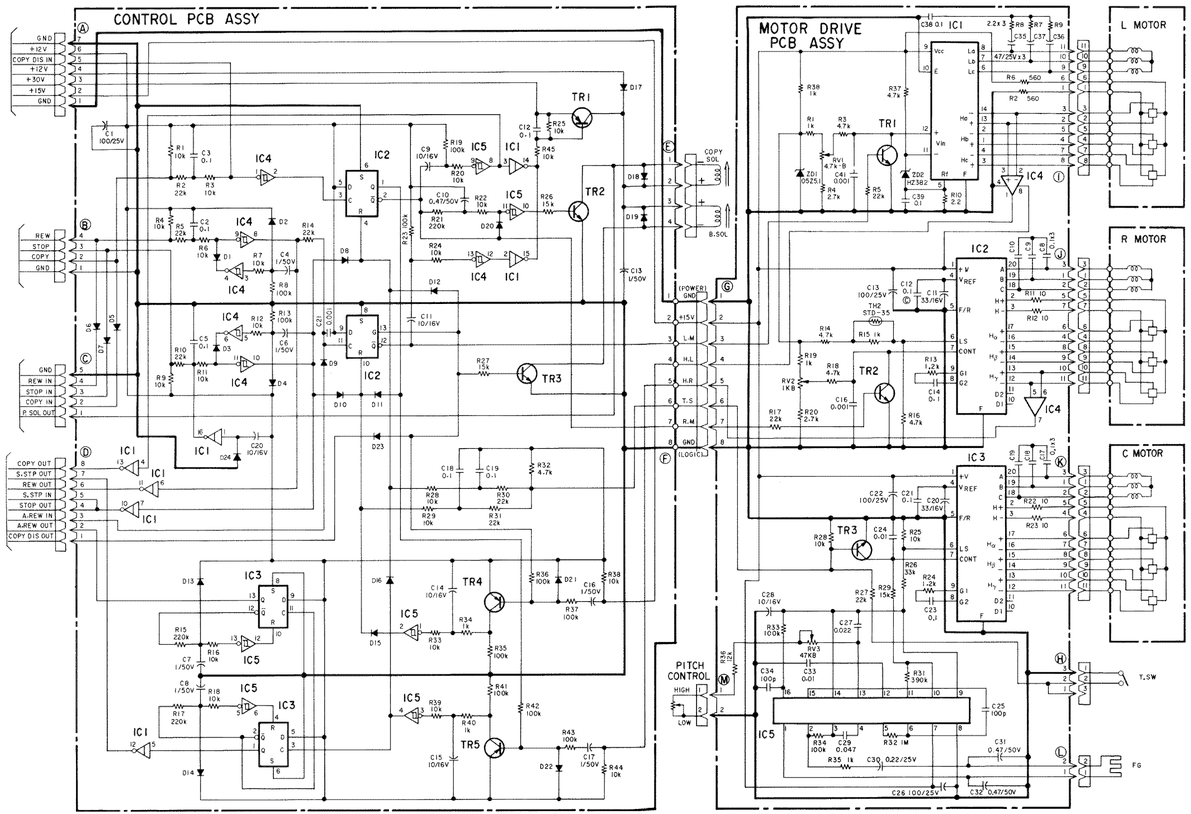
TASCAM

SCHEMATIC DIAGRAMS

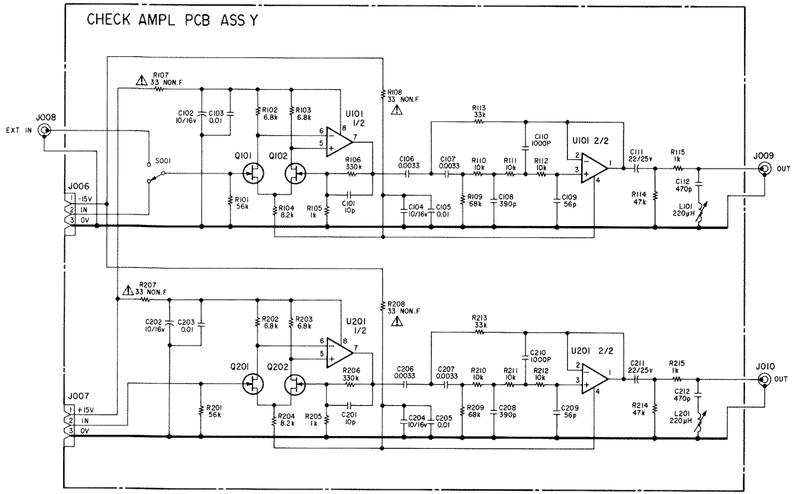
T-2640/MS•2S
T-2620/MS•2S

Cassette Duplicator

CONTROL PCB ASSY/MOTOR DRIVE PCB ASSY (Common for T-2640/MS·2S and T-2620/MS·2S)

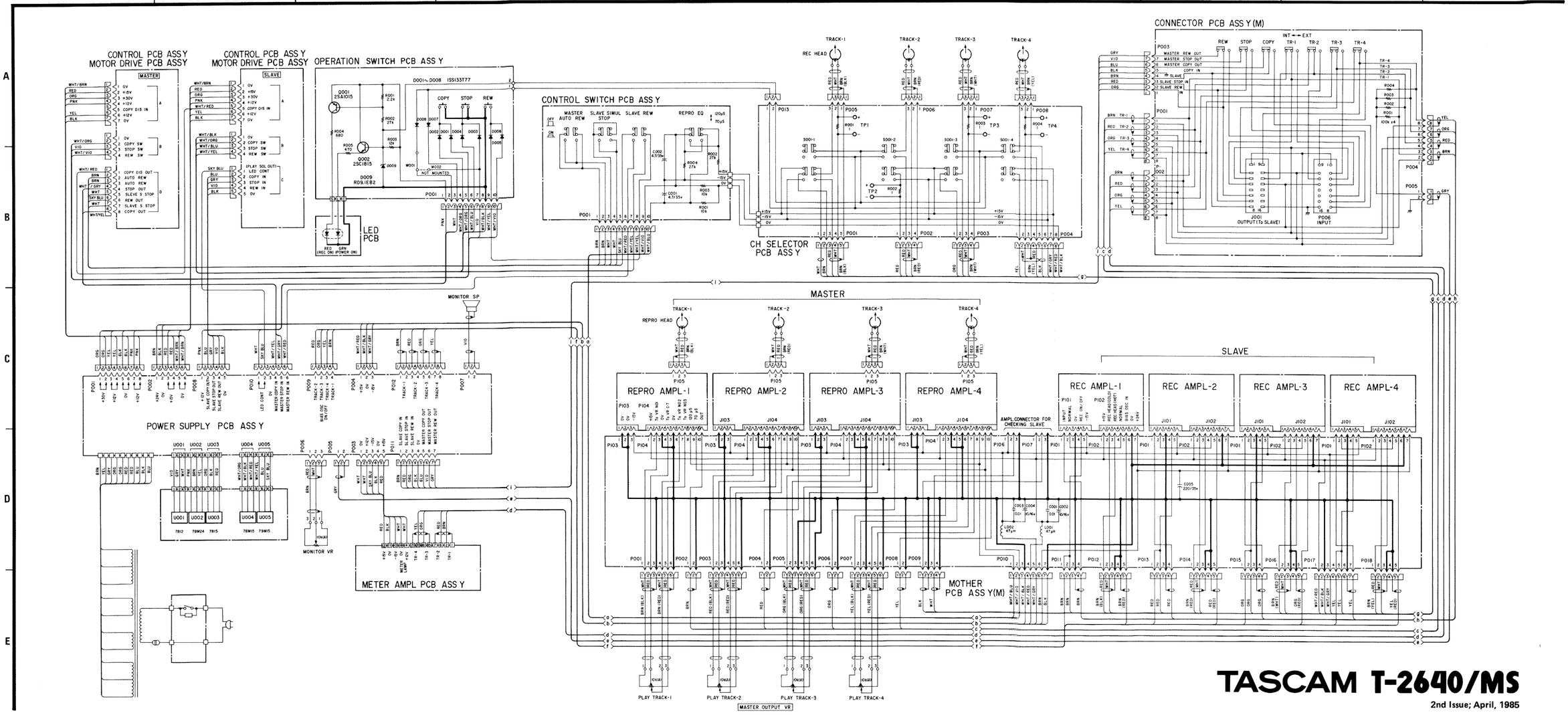


CHECK AMPL PCB ASSY (Common for T-2640/MS·2S and T-2620/MS·2S)



T-2640/MS·2S
TASCAM T-2620/MS·2S

2nd Issue; April, 1985



TASCAM T-2640/MS
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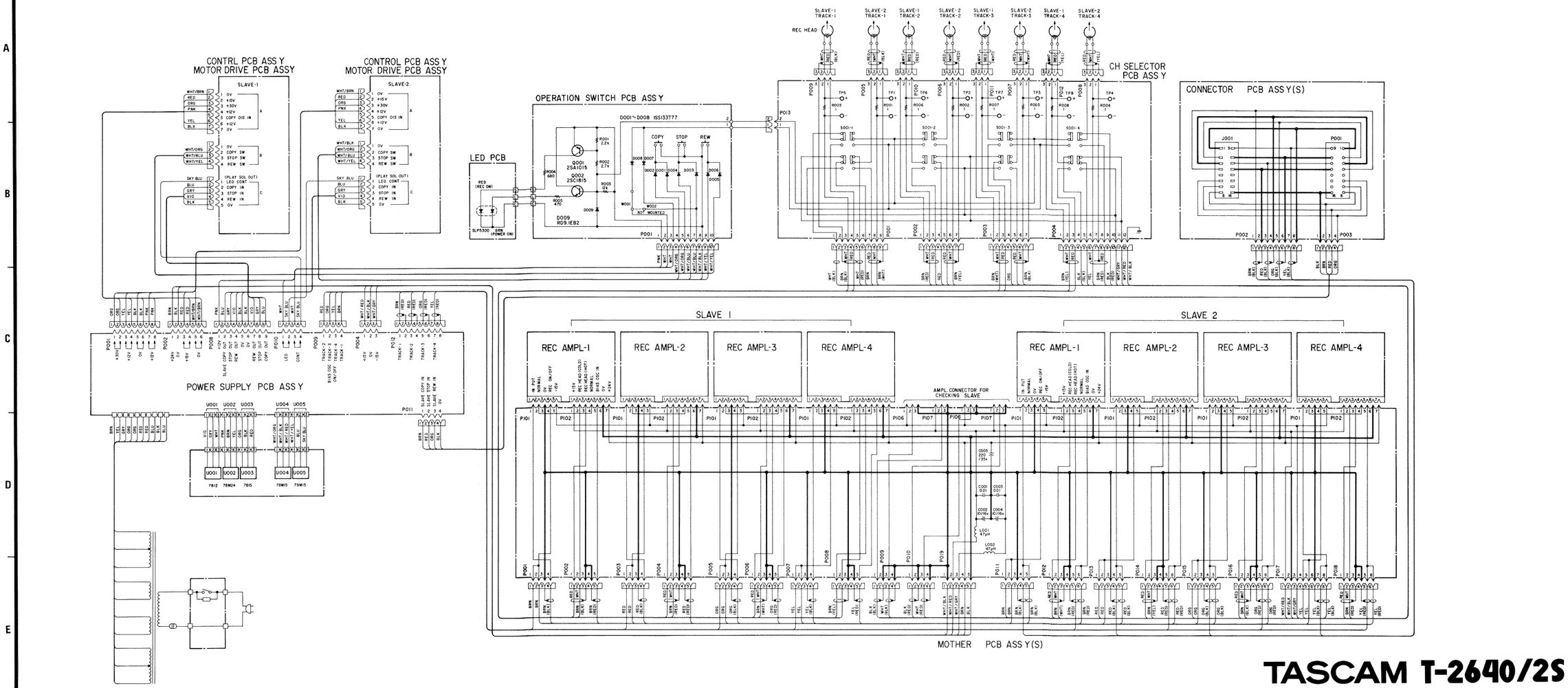
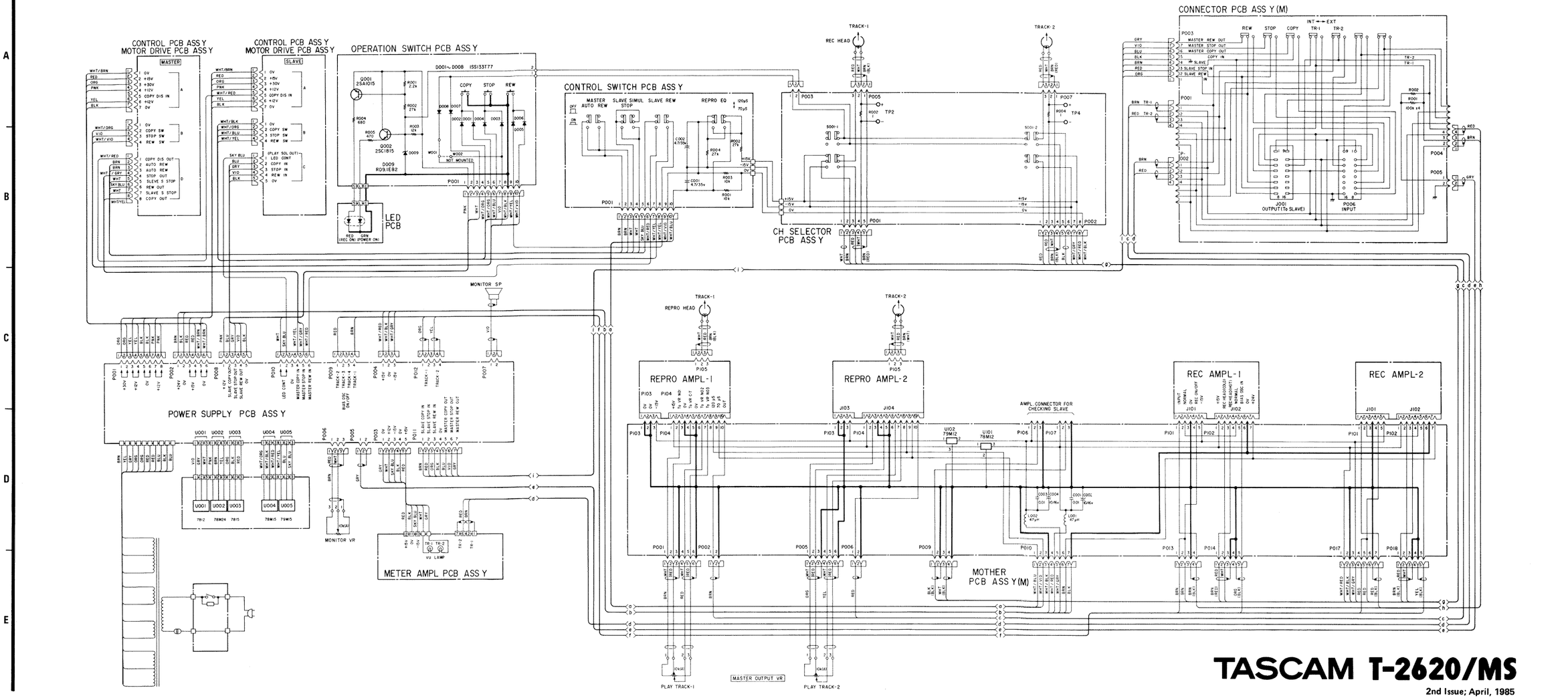
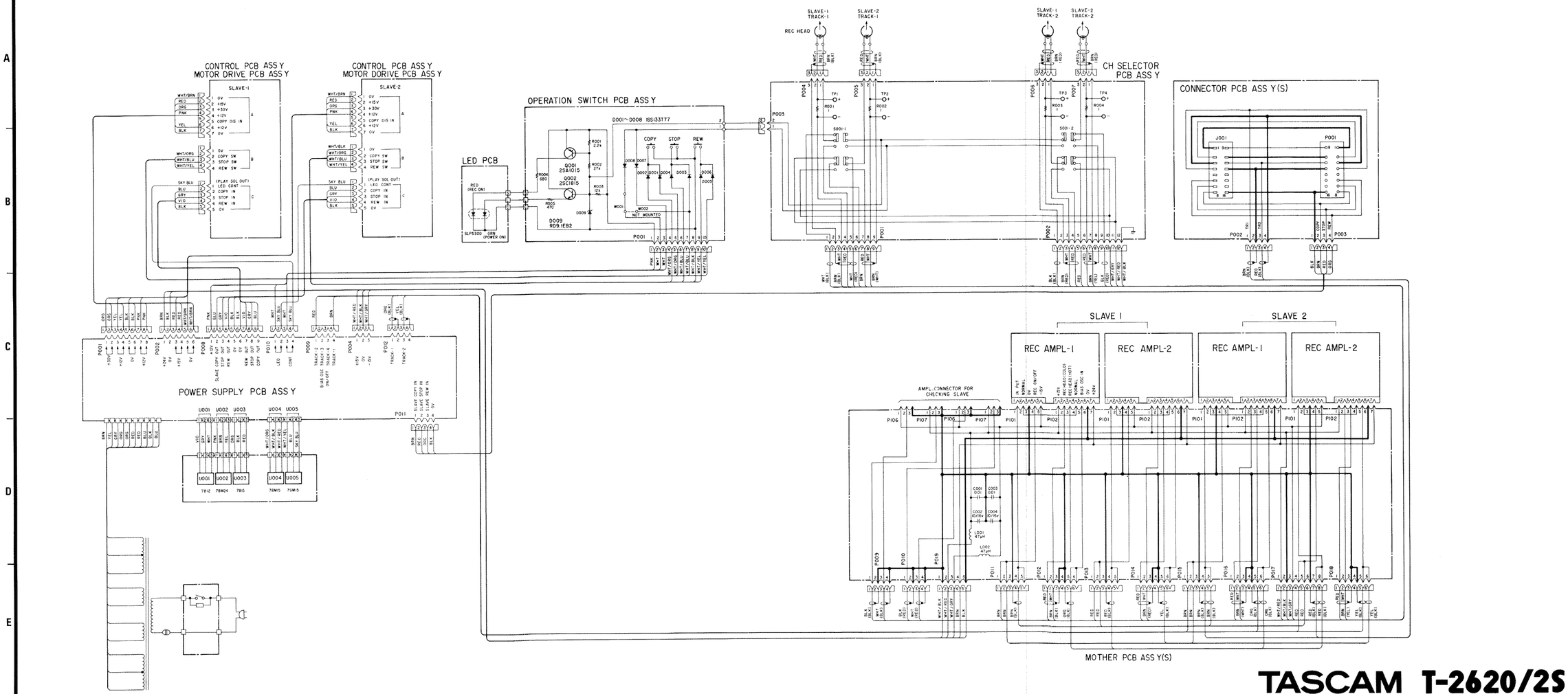

CONTRL PCB ASSY
MOTOR DRIVE PCB ASSY
CONTROL PCB ASSY
MOTOR DRIVE PCB ASSY
OPERATION SWITCH PCB ASSY
LED PCB
CH SELECTOR PCB ASSY
CONNECTOR PCB ASSY(S)
POWER SUPPLY PCB ASSY
SLAVE I
SLAVE 2
REC AMPL-1
REC AMPL-2
REC AMPL-3
REC AMPL-4
AMPL CONNECTOR FOR CHECKING SLAVE
MOTHER PCB ASSY(S)



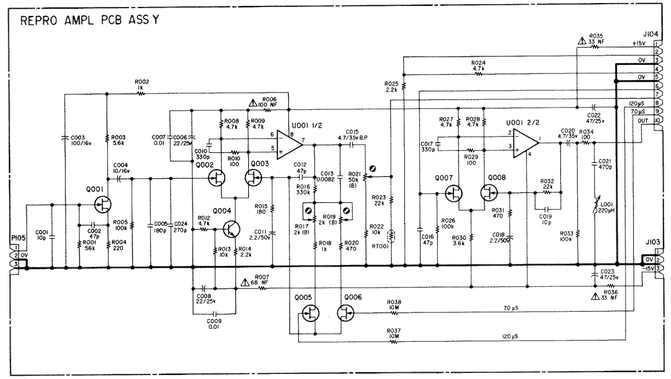
TASCAM T-2620/MS

2nd Issue; April, 1985



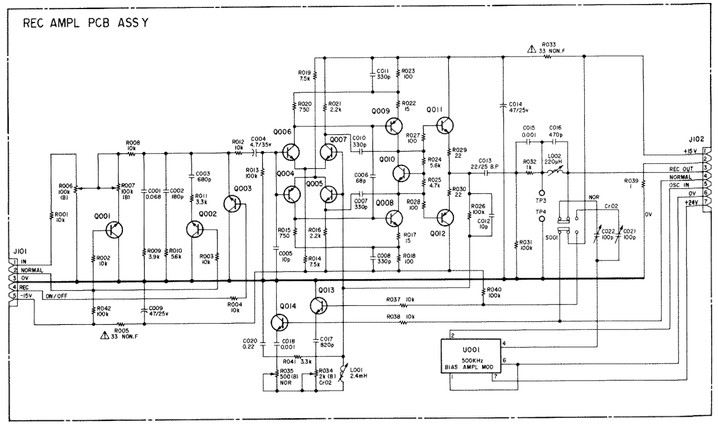
TASCAM T-2620/2S
2nd Issue; April, 1985

REPRO AMPL PCB ASSY (For T-2640/MS·2S)



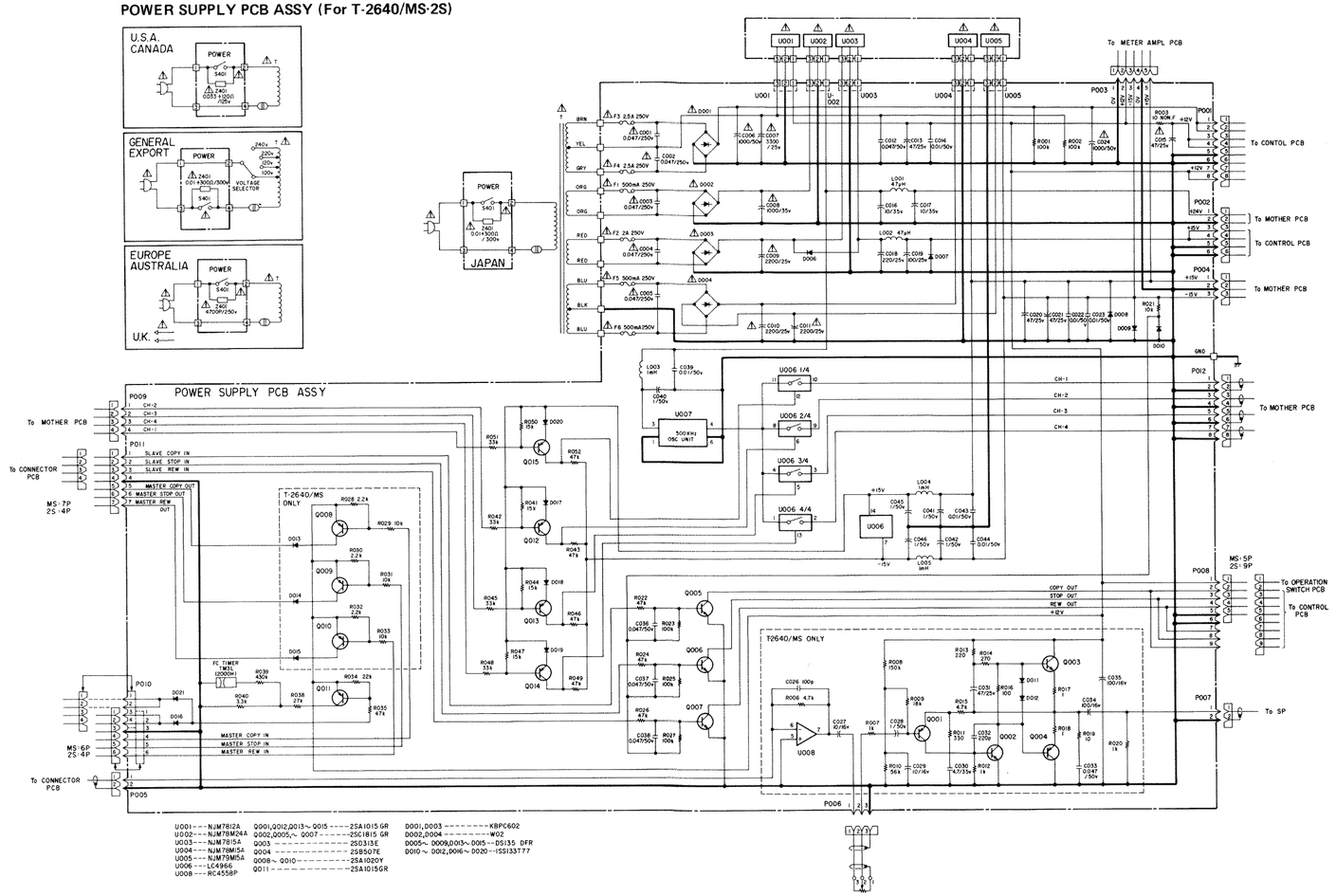
U001 ---------- NJM5532D
Q001~ Q003,Q005~ Q008 --- 2SK68A(M)
Q004 ---------- 2SC1815(GR)
RT001 ---------- S5C-34

REC AMPL PCB ASSY (For T-2640/MS·2S)



Q001~ Q003,Q013,Q014 ---2SC2878B
Q004,Q005,Q009,Q012 ----2SA1015 GR
Q006~ Q008,Q010,Q011 ----2SC1815 GR

POWER SUPPLY PCB ASSY (For T-2640/MS·2S)

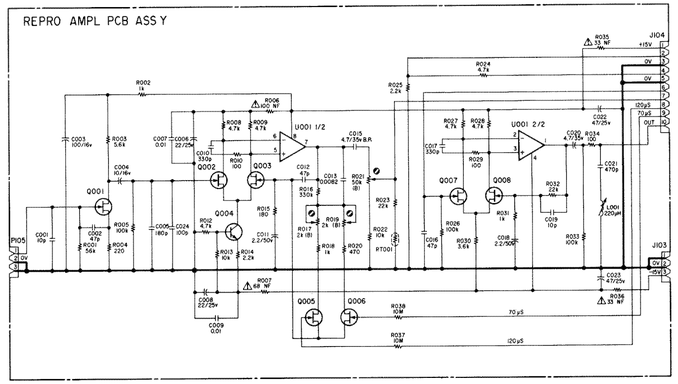


U001 ---------- NJM78I12A
U002 ---------- NJM78M24A
U003 ---------- NJM7815A
U004 ---------- NJM78M15A
U005 ---------- NJM79M15A
U006 ---------- LC4966
U008 ---------- RC4558P

Q001,Q012,Q013~ Q015 ----- 2SA1015 GR
Q002,Q005,~ Q007 ---------- 2SC1815 GR
Q003 ---------- 2SD313E
Q004 ---------- 2SB507E
Q008 ~ Q010 ---------- 2SA1020Y
Q011 ---------- 2SA1015GR

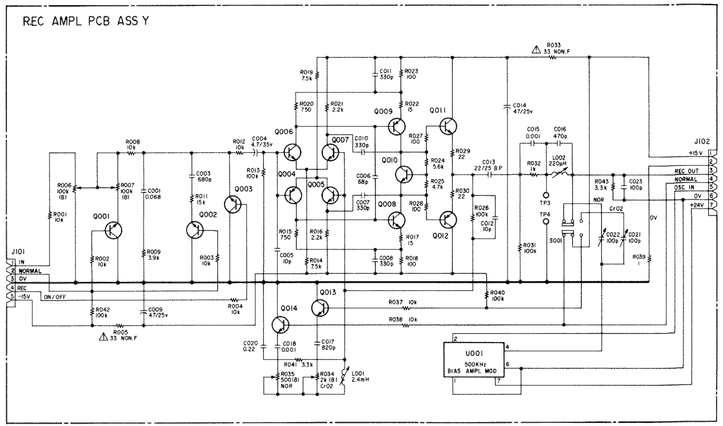
D001,D003 ---------- KBPC602
D002,D004 ---------- W02
D005~ D009,D013~ D015 --- DS135 DFR
D010 ~ D012,D016~ D020 --- 1SS133T77

REPRO AMPL PCB ASSY (For T-2620/MS-2S)



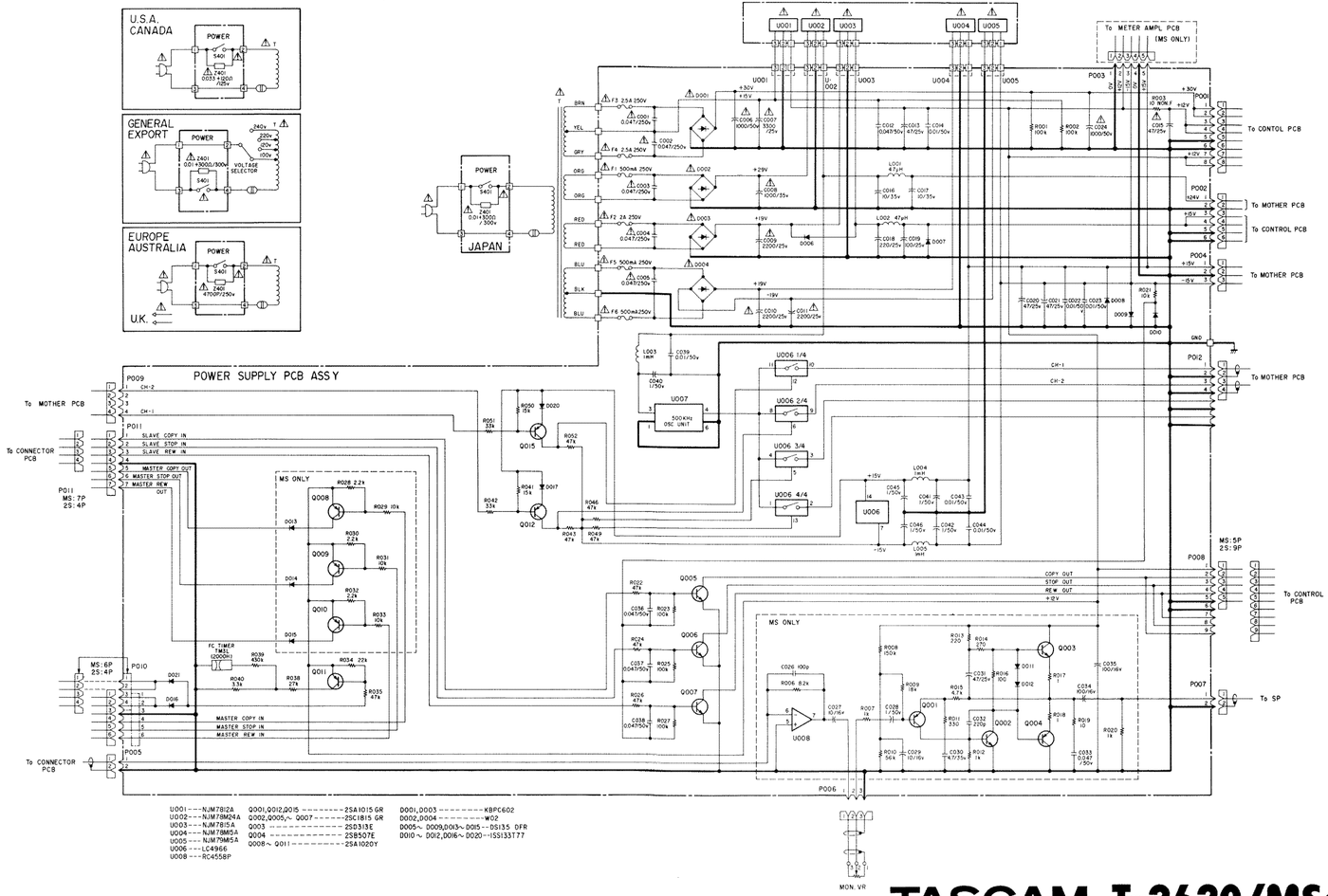
U001 ---------- NJM55320
Q001~ Q003,Q005~ Q008 -- 2SK68A(M)
Q004 ---------- 2SC1815(GR)
RT001 ---------- 5SC-34

REC AMPL PCB ASSY (For T-2620/MS-2S)



Q001~ Q003,Q013,Q014 ---2SC2878B
Q004,Q005,Q009,Q012 ----2SA1015 GR
Q006~ Q008,Q010,Q011 ---2SC1815 GR

POWER SUPPLY PCB ASSY (For T-2620/MS-2S)



U001 ---NJM7812A
U002 ---NJM78M24A
U003 ---NJM7815A
U004 ---NJM78M15A
U005 ---NJM79M15A
U006 ---LC4966
U008 ---RC4558P

Q001,Q012,Q015 --------2SA1015 GR
Q002,Q005,~ Q007 -------2SC1815 GR
Q003 ---------- 2SD313E
Q004 ---------- 2SB507E
Q008~ Q011 ---------2SA1020Y

D001,D003 --------KBPC602
D002,D004 ---------W02
D005~ D009,D013~ D015 --1SS135 DFR
D010 ~ D012,D016~ D020 --1SS133T77

T-2640/MS·2S/T-2620/MS·2S

TASCAM

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